

**From:** Stewart, Marsha L.  
**Sent:** Monday, January 7, 2013 8:56 AM  
**To:** Karen Clark (kclark@westlandswater.org)  
**Subject:** Meeting on 1/14/13

Good morning, Karen.

Just wanted to write to let you know I'm working on Mr. Bernhardt's travel to California for the meeting on 1/14/13 at 10 a.m.

Thank you,

Marsha

Marsha L. Stewart  
Administrative Assistant to David Bernhardt, Will Moschella and Elizabeth Gore  
Brownstein Hyatt Farber Schreck, LLP  
1350 I Street NW, Suite 510  
Washington, DC 20005  
tel (202) 747-0512  
fax: (202) 296-7009

To ensure compliance with requirements imposed by the IRS, we inform you that any federal tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for purposes of (i) avoiding penalties under the Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any transaction or tax-related matter addressed herein.

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**From:** Karen Clark  
**Sent:** Monday, January 7, 2013 9:50 AM  
**To:** 'Stewart, Marsha L.'  
**Subject:** RE: Meeting on 1/14/13

OK, Marsha. Let me know if you need anything.

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

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**From:** Stewart, Marsha L. [mailto:MStewart@BHFS.Com]  
**Sent:** Monday, January 07, 2013 7:56 AM  
**To:** Karen Clark (kclark@westlandswater.org)  
**Subject:** Meeting on 1/14/13

Good morning, Karen.

Just wanted to write to let you know I'm working on Mr. Bernhardt's travel to California for the meeting on 1/14/13 at 10 a.m.

Thank you,

Marsha

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Administrative Assistant to David Bernhardt, Will Moschella and Elizabeth Gore  
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**From:** Gayle Holman

**Sent:** Tuesday, January 8, 2013 3:50 PM

**To:** 'Don Peracchi'; 'Sarah Woolf'; 'Dan Errotabere'; 'Don Peracchi'; [REDACTED]@[REDACTED].[REDACTED]

**CC:** 'Karen Clark'

**Subject:** In-Person PR/Legislation Strategy Meeting

Hi:

Not certain what everyone's preferred mode of transportation is for this Monday's Sacramento meeting, but I have reserved the Westlands white van and am happy to drive. I can even provide door-to-door service! Just let me know.

Thanks!

Gayle

**Gayle Holman**

**Public Affairs Representative**

**Westlands Water District**

**3130 N. Fresno Street**

**P.O. Box 6056**

**Fresno, CA 93703-6056**

**(559) 241-6233 (direct)**

**(559) [REDACTED]-[REDACTED] (cell)**

**(559) 241-6277 (fax)**

**[gholman@westlandswater.org](mailto:gholman@westlandswater.org)**

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**From:** Karen Clark [mailto:kclark@westlandswater.org]

**Sent:** Sunday, December 16, 2012 3:36 PM

**To:** 'Don Peracchi'; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'David Bernhardt'; 'Doug Subers'; 'Ed Manning'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'; Sarah Woolf; Don Peracchi

**Subject:** In-Person PR/Legislation Strategy Meeting

Everyone,

I have scheduled this meeting for Monday, January 14, 2013 at 10:00 a.m. at KP Communications.

If you have any questions, please feel free to contact me.

Sincerely,

~Karen

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** dperacchi@westlandswater.org  
**Sent:** Tuesday, January 8, 2013 4:15 PM  
**To:** Gayle Holman  
**Subject:** Re: In-Person PR/Legislation Strategy Meeting

Gale, I'm driving uo the night before. Thanks, don p  
Sent on the Sprint. Now Network from my BlackBerry.

---

**From:** Gayle Holman <gholman@westlandswater.org>  
**Sender:** Gayle Holman <gholman@westlandswater.org>  
**Date:** Tue, 8 Jan 2013 14:49:42 -0800  
**To:** 'Don Peracchi'<dperacchi@westlandswater.org>; 'Sarah Woolf'<swoolf@westlandswater.org>; 'Dan Errotabere'<[REDACTED]@[REDACTED]>; 'Don Peracchi'<dperacchi@westlandswater.org>; [REDACTED]@[REDACTED]<[REDACTED]@[REDACTED]>  
**Cc:** 'Karen Clark'<kclark@westlandswater.org>  
**Subject:** In-Person PR/Legislation Strategy Meeting

Hi:

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**(559) 241-6277 (fax)**  
**[gholman@westlandswater.org](mailto:gholman@westlandswater.org)**

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**To:** 'Don Peracchi'; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'David Bernhardt'; 'Doug Subers'; 'Ed Manning'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'; Sarah Woolf; Don Peracchi  
**Subject:** In-Person PR/Legislation Strategy Meeting

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If you have any questions, please feel free to contact me.

Sincerely,

~Karen

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Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Jason Peltier  
**Sent:** Saturday, January 12, 2013 8:45 AM  
**To:** Joe Findaro; David Bernhardt  
**Subject:** Sunday

When are you getting in to Sacramento?

If it early enough, would you like to come join Jean-Mari and I for dinner at our home (30 min south of town) ?

**From:** Bernhardt, David L.  
**Sent:** Saturday, January 12, 2013 10:51 AM  
**To:** Jason Peltier  
**Subject:** Re: Sunday

Thanks for the offer. I really appreciate it, but I won't get on until around 9 pm.

David Bernhardt  


On Jan 12, 2013, at 10:45 AM, "Jason Peltier" <jpeltier@westlandswater.org> wrote:

>  
> When are you getting in to Sacramento?  
>  
> If it early enough, would you like to come join Jean-Mari and I for dinner at our home (30 min south of town) ?

**From:** Jason Peltier

**Sent:** Sunday, January 13, 2013 11:30 AM

**To:** Joe Findaro; David Bernhardt; Joe Raeder <jraeder@tfgnet.com>; Mark Limbaugh; David Reynolds

**CC:** Brent Walthall; Ron Jacobsma; Ara Azhderian

**Subject:** Fwd: D.C. Exchange Candidate Nominations Requested

Any suggestions?

Begin forwarded message:

**From:** "Emily Clark" <[eclark@agleaders.org](mailto:eclark@agleaders.org)>

**Date:** January 11, 2013, 9:03:47 AM PST

**To:** <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)>

**Subject:** D.C. Exchange Candidate Nominations Requested



Greetings Alumni,

Recommendations are needed for the 2013 Washington, D.C. Educational Fellowship Program (D.C. Exchange), which will tour regions 6, 7 & 8 (Central Valley – predominately Fresno, Kern County and San Luis Obispo County). The Exchange tour is from August 3rd through the 10th. Unfortunately, due to the length of our tour and House Ethics Rules, we are currently unable to accept congressional staffers. Please forward names, along with emails and/or phone numbers of qualified candidates to Judy at [jsparacino@agleaders.org](mailto:jsparacino@agleaders.org) or call (831) 585-1030. **Recommendations are needed by February 22.** We will be conducting interviews in DC and surrounding areas Monday and Tuesday, March 25 and 26, 2013.

Thank you in advance.



*"WE GROW LEADERS WHO MAKE A DIFFERENCE."*

P.O. Box 479 Salinas, CA 93902 >> 425 West Blanco Rd., Salinas, CA 93908  
P: 831.585.1030 >> F: 831.424.4107

This message was sent to [jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org) from:

Emily Clark | 425 West Blanco Road | Salinas, CA 93908

**[Manage Your Subscription](#)**

**From:** Bernhardt, David L.  
**Sent:** Friday, January 18, 2013 12:14 PM  
**To:** Tom Birmingham  
**Subject:** Re: Salazar's Phone Number

Tom: I am working on a phone number. He will be at Interior until March and you might want to think about getting a few minutes to personally thank him when you are back here for the BDCP talks.

David

David Bernhardt  
202-872-5286  
202- [REDACTED] (cell)

On Jan 17, 2013, at 4:32 PM, "Tom Birmingham" <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)> wrote:

David,

Can you obtain from your colleagues in Denver a telephone number where I can reach Secretary Salazar. I want to telephone him to thank him for all of his help during his tenure at Interior. As bad as it has been, I'm convinced it would have been worse without him.

Tom



**From:** Tom Birmingham  
**Sent:** Friday, January 18, 2013 1:36 PM  
**To:** Bernhardt, David L.  
**Subject:** Re: Salazar's Phone Number

David,

Thank you. Your suggestion about getting a few minutes with him at the end of this month is excellent. Can you put in the request? I could do it anytime on the afternoon of the 29th, the afternoon of the 30th, or the morning of the 31st.  
Tom

Sent from I-Pad

On Jan 18, 2013, at 11:14 AM, "Bernhardt, David L." <[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)> wrote:

Tom: I am working on a phone number. He will be at Interior until March and you might want to think about getting a few minutes to personally thank him when you are back here for the BDCP talks.

David

David Bernhardt  
202-872-5286  
202-████-████ (cell)

On Jan 17, 2013, at 4:32 PM, "Tom Birmingham" <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)> wrote:

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Can you obtain from your colleagues in Denver a telephone number where I can reach Secretary Salazar. I want to telephone him to thank him for all of his help during his tenure at Interior. As bad as it has been, I'm convinced it would have been worse without him.

Tom

**From:** Jason Peltier

**Sent:** Thursday, January 24, 2013 10:30 AM

**To:** Tom Birmingham; D Nelson; Ara Azhderian; Ed Manning; Carolyn Jensen (cjensen@ka-pow. com); Joe Findaro; David Bernhardt; Tony Coelho; Cathrine Karen

**Subject:** Fwd: SWC: Gov. SOS Remarks

Begin forwarded message:

**From:** "Ann Newton" <[anewton@fionahuttonassoc.com](mailto:anewton@fionahuttonassoc.com)>

**Date:** January 24, 2013, 9:21:55 AM PST

**Subject: SWC: Gov. SOS Remarks**

All,

The Governor is still going thru his address, but the remarks were just posted online...water section is highlighted below.

## Governor Brown Delivers 2013 State of the State Address

1-24-2013

SACRAMENTO – Governor Edmund G. Brown Jr. today delivered the 2013 State of the State Address. Below is the text as prepared for delivery:

**Edmund G. Brown Jr.**  
**State of the State Address**  
**Remarks as Prepared**  
**January 24, 2013**

The message this year is clear: California has once again confounded our critics. We have wrought in just two years a solid and enduring budget. And, by God, we will persevere and keep it that way for years to come.

Against those who take pleasure, singing of our demise, California did the impossible.

You, the California legislature, did it. You cast difficult votes to cut billions from the state budget. You curbed prison spending through an historic realignment and you reformed and reduced the state's long term pension liabilities.

Then, the citizens of California, using their inherent political power under the Constitution, finished the task. They embraced the new taxes of Proposition 30 by a healthy margin of 55% to 44%.

Members of the legislature, I salute you for your courage, for wholeheartedly throwing yourself into the cause.

I salute the unions—their members and their leaders. You showed what ordinary people can do when they are united and organized.

I salute those leaders of California business and the individual citizens who proudly stood with us.

I salute the teachers and the students, the parents and the college presidents, the whole school community. As the great jurist, Oliver Wendell Holmes, once said when describing what stirs people to action: "Feeling begets feeling and great feeling begets great feeling." You were alarmed, you stirred yourselves to action and victory was the outcome.

That was 2012 and what a year!

In fact, both 2011 and 2012 were remarkable.

You did great things: Your 1/3 renewable energy mandate; the reform of workers compensation; the reorganization of state government; protecting our forests and strengthening our timber industry; reforming our welfare system; and launching the nation's first high speed rail system.

But, of course, governing never ends. We have promises to keep. And the most important is the one we made to the voters if Proposition 30 passed: that we would guard jealously the money temporarily made available.

This means living within our means and not spending what we don't have. Fiscal discipline is not the enemy of our good intentions but the basis for realizing them. It is cruel to lead people on by expanding good programs, only to cut them back when the funding disappears. That is not progress; it is not even progressive. It is illusion. That stop and go, boom and bust, serves no one. We are not going back there.

The budget is balanced but great risks and uncertainties lie ahead. The federal government, the courts or changes in the economy all could cost us billions and drive a hole in the budget. The ultimate costs of expanding our health care system under the Affordable Care Act are unknown. Ignoring such known unknowns would be folly, just as it would be to not pay down our wall of debt. That is how we plunged into a decade of deficits.

Recall the story of Genesis and Pharaoh's dream of seven cows, fatfleshed and well favored, which came out of the river, followed by seven other cows leanfleshed and ill favored. Then the lean cows ate up the fat cows. The Pharaoh could not interpret his dream until Joseph explained to him that the seven fat cows were seven years of great plenty and the seven lean cows were seven years of famine that would immediately follow. The Pharaoh took the advice of Joseph and stored up great quantities of grain during the years of plenty. When famine came, Egypt was ready.

The people have given us seven years of extra taxes. Let us follow the wisdom of Joseph, pay down our debts and store up reserves against the leaner times that will surely come.

In the midst of the Great Depression, Franklin Roosevelt said: "There is a mysterious cycle in human events. To some generations much is given. Of other generations much is expected. This generation has a rendezvous with destiny."

We --right here in California-- have such a rendezvous with destiny. All around us we see doubt and skepticism about our future and that of America's. But what we have accomplished together these last two years, indeed, the whole history of California, belies such pessimism.

Remember how California began.

In 1769, under King Charles III, orders were issued to Jose de Galvez, the Visitor General of Baja California, to: "Occupy and fortify San Diego and Monterey for God and the King of Spain."

Gaspar Portola and a small band of brave men made their way slowly north, along an uncharted path. Eventually, they reached Monterey but they could not recognize the Bay in the dense fog. With their supplies failing, they marched back to San Diego, forced to eat the flesh of emaciated pack mules just to stay alive. Undaunted, Portola sent for provisions from Baja California and promptly organized a second expedition. He retraced his steps northward, along what was to become El Camino Real, the Kings Highway. This time, Father Serra joined the expedition by sea. The rest is history, a spectacular history of bold pioneers meeting every failure with even greater success.

The founding of the Missions, secularized and sold off in little more than 50 years, the displacement and devastation of the native people, the discovery of Gold, the coming of the Forty-Niners and adventurers from every continent, first by the thousands and then by the hundreds of thousands. Then during the Civil War under President Lincoln came the Transcontinental Railroad and Land Grant Colleges, followed by the founding of the University of California. And oil production, movies, an aircraft industry, the longest suspension bridge in the world, aerospace, the first freeways, grand water projects, Jet Propulsion Laboratory, Venture Capital, Silicon Valley, Hewlett Packard, Apple, Qualcomm, Google and countless others, existing and still just imagined.

What is this but the most diverse, creative and longest standing mass migration in the history of the world. That is California. And we are her sons and daughters. This special destiny never ends. It slows. It falters. It goes off track in ignorance and prejudice but soon resumes again—more vibrant and more stunning in its boldness.

The rest of the country looks to California. Not for what is conventional, but for what is necessary—necessary to keep faith with our courageous forebears.

What we have done together and what we must do in the coming years is big, but it pales in comparison to the indomitable courage of those who discovered and each decade thereafter built a more abundant California.

As Legislators, It is your duty and privilege to pass laws. But what we need to do for our future will require more than producing hundreds of new laws each year. Montaigne, the great French writer of the 16th Century, in his Essay on

Experience, wisely wrote: "There is little relation between our actions, which are in perpetual mutation, and fixed and immutable laws. The most desirable laws are those that are the rarest, simplest, and most general; and I even think that it would be better to have none at all than to have them in such numbers as we have."

Constantly expanding the coercive power of government by adding each year so many minute prescriptions to our already detailed and turgid legal system overshadows other aspects of public service. Individual creativity and direct leadership must also play a part. We do this, not by commanding thou shalt or thou shalt not through a new law but by tapping into the persuasive power that can inspire and organize people. Lay the Ten Commandments next to the California Education code and you will see how far we have diverged in approach and in content from that which forms the basis of our legal system.

## Education

In the right order of things, education—the early fashioning of character and the formation of conscience—comes before legislation. Nothing is more determinative of our future than how we teach our children. If we fail at this, we will sow growing social chaos and inequality that no law can rectify.

In California's public schools, there are six million students, 300,000 teachers—all subject to tens of thousands of laws and regulations. In addition to the teacher in the classroom, we have a principal in every school, a superintendent and governing board for each school district. Then we have the State Superintendent and the State Board of Education, which makes rules and approves endless waivers—often of laws which you just passed. Then there is the Congress which passes laws like "No Child Left Behind," and finally the Federal Department of Education, whose rules, audits and fines reach into every classroom in America, where sixty million children study, not six million.

Add to this the fact that three million California school age children speak a language at home other than English and more than two million children live in poverty. And we have a funding system that is overly complex, bureaucratically driven and deeply inequitable. That is the state of affairs today.

The laws that are in fashion demand tightly constrained curricula and reams of accountability data. All the better if it requires quiz-bits of information, regurgitated at regular intervals and stored in vast computers. Performance metrics, of course, are invoked like talismans. Distant authorities crack the whip, demanding quantitative measures and a stark, single number to encapsulate the precise achievement level of every child.

We seem to think that education is a thing—like a vaccine—that can be designed from afar and simply injected into our children. But as the Irish poet, William Butler Yeats said, "Education is not the filling of a pail but the lighting of a fire."

This year, as you consider new education laws, I ask you to consider the principle of Subsidiarity. Subsidiarity is the idea that a central authority should only perform those tasks which cannot be performed at a more immediate or local level. In other words, higher or more remote levels of government, like the state, should render assistance to local school districts, but always respect their primary jurisdiction and the dignity and freedom of teachers and students.

Subsidiarity is offended when distant authorities prescribe in minute detail what is taught, how it is taught and how it is to be measured. I would prefer to trust our teachers who are in the classroom each day, doing the real work – lighting fires in young minds.

My 2013 Budget Summary lays out the case for cutting categorical programs and putting maximum authority and discretion back at the local level—with school boards. I am asking you to approve a brand new Local Control Funding Formula which would distribute supplemental funds — over an extended period of time — to school districts based on the real world problems they face. This formula recognizes the fact that a child in a family making \$20,000 a year or speaking a language different from English or living in a foster home requires more help. Equal treatment for children in unequal situations is not justice.

With respect to higher education, cost pressures are relentless and many students cannot get the classes they need. A half million fewer students this year enrolled in the community colleges than in 2008. Graduation in four years is the exception and transition from one segment to the other is difficult. The University of California, the Cal State system and the community colleges are all working on this. The key here is thoughtful change, working with the faculty and the college presidents. But tuition increases are not the answer. I will not let the students become the default financiers of our colleges and universities.

## Health Care

California was the first in the nation to pass laws to implement President Obama's historic Affordable Care Act. Our health benefit exchange, called Covered California, will begin next year providing insurance to nearly one million Californians. Over the rest of this decade, California will steadily reduce the number of the uninsured.

Today I am calling for a special session to deal with those issues that must be decided quickly if California is to get the Affordable Care Act started by next January. The broader expansion of Medi-Cal that the Act calls for is incredibly

complex and will take more time. Working out the right relationship with the counties will test our ingenuity and will not be achieved overnight. Given the costs involved, great prudence should guide every step of the way.

## Jobs

California lost 1.3 million jobs in the great Recession but we are coming back at a faster pace than the national average. The new Office of Business and Economic Development — GoBiz —directly assisted more than 5,000 companies this past year.

One of those companies was Samsung Semiconductor Inc. headquartered in Korea. Working with the City of San Jose and Santa Clara County, GoBiz persuaded Samsung to locate their only research and development facility in the world here in California. The new facility in San Jose will place at least 2,500 people in high skill, high wage jobs. We also leveled the field on internet sales taxes, paving the way for over 1,000 new jobs at new Amazon distribution centers in Patterson and San Bernardino and now Tracy.

This year, we should change both the Enterprise Zone Program and the Jobs Hiring Credit. They aren't working. We also need to rethink and streamline our regulatory procedures, particularly the California Environmental Quality Act. Our approach needs to be based more on consistent standards that provide greater certainty and cut needless delays.

California's exports are booming and our place in the world economy has never been stronger. Our ties with The People's Republic of China in particular are deep—from the Chinese immigrants crossing the Pacific in 1848 to hosting China's next President in Los Angeles last February. This year we will take another step to strengthen the ties between the world's second and ninth largest economies. In April, I will lead a trade and investment mission to China with help from the Bay Area Council and officially open California's new trade and investment office in Shanghai.

## Water

Central to the life of our state is water and one sixth of that water flows through the San Joaquin Delta.

Silicon Valley, the Livermore Valley, farmers on the East side of the San Joaquin Valley between Fresno and Kern County and farmers on the West side between Tracy and Los Banos, urban Southern California and Northern Contra Costa, all are critically dependent on the Delta for water.

If because of an earthquake, a hundred year storm or sea level rise, the Delta fails, the disaster would be comparable to Hurricane Katrina or Superstorm Sandy: losses of at least \$100 billion and 40,000 jobs. I am going to do whatever I can to make sure that does not happen. My proposed plan is two tunnels 30 miles long and 40 feet wide, designed to improve the ecology of the Delta, with almost 100 square miles of habitat restoration. Yes, that is big but so is the problem.

The London Olympics lasted a short while and cost \$14 billion, about the same cost as this project. But this project will serve California for hundreds of years.

## Climate Change

When we think about California's future, no long term liability presents as great a danger to our wellbeing as the buildup of carbon dioxide and other greenhouse gases in the atmosphere.

According to the latest report from the World Bank, carbon dioxide emissions are the highest in 15 million years. At today's emissions rate, the planet could warm by more than 7 degrees Fahrenheit by the end of the century, an event unknown in human experience. California is extremely vulnerable because of our Mediterranean climate, long coastline and reliance on snowpack for so much of our water supply.

Tipping points can be reached before we even know we have passed them. This is a different kind of challenge than we ever faced. It requires acting now even though the worst consequences are perhaps decades in the future.

Again California is leading the way. We are reducing emissions as required by AB 32 and we will meet our goal of getting carbon emissions to 1990 levels by 2020.

Key to our efforts is reducing electricity consumption through efficiency standards for buildings and appliances. Over the last three decades, these pioneering efforts have saved Californians \$65 billion dollars. And we are not through yet.

We are also meeting our renewable energy goals: more than 20% renewable energy this year. By 2020, we will get at least a third of our electricity from the sun and the wind and other renewable sources—and probably more.

## Transportation and High Speed Rail

In the years following World War II, California embarked on a vast program to build highway, bridges and roads.

Today, California's highways are asked to accommodate more vehicle traffic than any other state in the nation. Most were constructed before we knew about climate change and the lethal effects of dirty air. We now expect more.

I have directed our Transportation Agency to review thoroughly our current priorities and explore long-term funding options.

Last year, you authorized another big project: High Speed Rail. Yes, it is bold but so is everything else about California.

Electrified trains are part of the future. China already has 5000 miles of high speed rail and intends to double that. Spain has 1600 miles and is building more. More than a dozen other countries have their own successful high speed rail systems. Even Morocco is building one.

The first phase will get us from Madera to Bakersfield. Then we will take it through the Tehachapi Mountains to Palmdale, constructing 30 miles of tunnels and bridges. The first rail line through those mountains was built in 1874 and its top speed over the crest is still 24 miles an hour. Then we will build another 33 miles of tunnels and bridges before we get the train to its destination at Union Station in the heart of Los Angeles.

It has taken great perseverance to get us this far. I signed the original high speed rail Authority in 1982—over 30 years ago. In 2013, we will finally break ground and start construction.

#### Conclusion

This is my 11th year in the job and I have never been more excited. Two years ago, they were writing our obituary. Well it didn't happen. California is back, its budget is balanced, and we are on the move. Let's go out and get it done.



Ann Newton  
Account Supervisor  
Fiona Hutton & Associates, Inc.  
12711 Ventura Blvd., Suite 280  
Studio City, CA 91604  
T: 818.760.2121  
F: 818.760.2202  
C: 310.774.7639  
Email: [anewton@fionahuttonassoc.com](mailto:anewton@fionahuttonassoc.com)  
[www.fionahuttonassoc.com](http://www.fionahuttonassoc.com)

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**From:** Jason Peltier  
**Sent:** Monday, January 28, 2013 10:24 AM  
**To:** Joe Findaro; David Bernhardt; Tony Coelho  
**Subject:** Garamendi in Davis paper

# Brown's canal proposal bad plumbing: Garamendi

**By Cory Golden**

From page A4 | January 27, 2013

Rep. John Garamendi on Saturday blasted the proposal to build two tunnels through the Sacramento-San Joaquin Delta touted by Gov. Jerry Brown in his State of the State Address.

“That’s not a water plan, that’s a plumbing system — and a very, very bad one,” said Garamendi, D-Walnut Grove, before about 300 people at the ninth-annual California Water Symposium at UC Davis.

“Don’t ever build something that has the potential for destroying something so special, so valuable as the largest estuary on the west coast, which is the Delta. We need to move beyond just a plumbing system. We need to think about what California really needs.”

Speaking on Thursday, Brown said an earthquake, a 100-year storm or rising sea level could be disastrous for the state, with losses of \$100 billion and 40,000 jobs.

His proposal: two tunnels 30 miles long, from Clarksburg to Tracy, and 40 feet wide paired with 100 square miles of habitat restoration.

“Yes, that is big but so is the problem,” Brown said.

Estimated cost: \$14 billion, which the governor noted was about the cost of the London Olympics.

“I told Gov. Brown, ‘If you are successful, it will be two decades before you get a gallon of water through your tunnels,’ ” Garamendi said after his keynote address. “First of all, you’ve got 10 years of lawsuits — guaranteed. Then you’ve got 10 years of construction. So what are you going to do in the meantime?”

Added Garamendi during his speech, referring to voters rejection of the Peripheral Canal Act, “We beat Jerry Brown in ’82, and we’ll beat him this time if necessary.”

Garamendi said he planned to introduce in two to three months legislation that would put federal agencies on the same page when it comes to the state’s water.

His envisions a comprehensive water plan, similar to one put forth by the environmental nonprofit the National Resources Defense Council, for the state that includes recycling, conservation, increased water storage, Delta levee repair and river management guided by the latest science.

His approach would be cheaper, he said, and would generate quicker results.

“Why would you transport water 500 miles (south), clean it, use it once to a higher standard than the day it arrives, and dump it in the ocean? That’s what we do. We need to think differently about water,” he said.

He said that he believed 2 million acre feet of “new” water can come from recycling and conservation. By comparison, the congressman said, “The twin tunnels give you zero new water — not one gallon of new water comes from the tunnels.”

Garamendi said new water storage is needed both south and north of the Delta. “Storage facilities in Southern California have a greater capacity than Shasta Reservoir. Most of them are not used because they are contaminated, but they can be cleaned,” he said.

Without more storage, the increased water pumped south would be largely wasted, the congressman said:

“Some of the terms that are being used by some of my environmental friends are ‘big gulp and little sip.’ You’ve got a lot of water, you take a big gulp, but where are you going to put it?”

North of the Delta, the proposed Sites Reservoir in Colusa County, shows promise for increasing flexibility along the Sacramento River, he said. The U.S. Bureau of Reclamation has deemed a proposal to increase the size of Lake Shasta by raising Shasta Dam feasible, but the plan has been more controversial.

Garamendi favors a smaller Delta facility than Brown — perhaps 3,000 cubic feet per second capacity, compared to 15,000 cubic feet per second for the governor’s plan.

“A quick look at the water flow of the Sacramento River over the past two decades would tell you that for approximately six months of the year there is somewhere between 15,000 and 20,000 cubic feet per second on the Sacramento River flowing past Freeport. And you’re going to build a 15,000 cubic feet per second facility and not destroy ...?”

Garamendi trailed off and shook his head.

He’s also calling for the Bureau of Reclamation and Department of Water Resources to better maintain Delta levees that protect the water system, agriculture and homes. For decades, he said, they’ve relied on local agencies for upkeep or state and federal agencies if there’s flooding.

The congressman said a study of the American River basin will soon provide a better ability to manage flood capacity and protection on that river. That should be done for every river in the state, he said, rather than the U.S. Army Corps of Engineer’s method of controlling water based on 50-year precipitation and flow numbers.

The UCD School of Law hosted Saturday’s symposium.



**From:** Jason Peltier  
**Sent:** Tuesday, January 29, 2013 12:04 PM  
**To:** Jason Larrabee  
**CC:** Joe Findaro; David Bernhardt  
**Subject:** FW: Delta Watch: Opportunities Wasted

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**From:** Sustainable Delta [<mailto:contact@sustainabledelta.com>]  
**Sent:** Tuesday, January 29, 2013 9:18 AM  
**To:** Sustainable Delta  
**Subject:** Delta Watch: Opportunities Wasted

# Opportunities Wasted

Follow [@DeltaWatch](#) on Twitter

California received a much needed gift over the holiday season, a torrent of rain and snow to start off the winter. The positive results were clear when the first snow survey of the season, on January 2, found the Sierra snowpack at 34 percent above average for the date.

While it seemed to be a good sign at the time, the early deluge of precipitation also stood to highlight all that is wrong in California's water system. While these storms were filling the

state's rivers and streams, limitations under the Endangered Species Act to protect delta smelt resulted in water supply losses of over 371,000 acre feet as of January 8, which is enough water to supply 2.3 million people for a full year.

These same restrictions have been held by a federal court to be legally invalid after scientists for the federal fishery agencies were unable to show an environmental benefit for stifling water exports to this extent, yet the restrictions still remain in place while regulators prepare new rules. With no demonstrable environmental benefit, water was simply lost to the ocean instead of being put to beneficial use by urban and agricultural users throughout the state.

Now, as California's weather has seemed to shift back to a dry pattern, water managers would love

to have that excess water back. Recent projections by the National Weather Service are forecasting little precipitation in the coming weeks and the state may have squandered its best opportunity to capture water when the rivers and streams were running high in December and early January.

Therein lies the problem that water managers struggle with each year. When a deluge of water is added to the system by Mother Nature, that water cannot be stored for drier times because of

questionable pumping restrictions imposed to protect fish species. As most climate experts warn, warmer wet storms will likely become the norm in the coming years and the natural water storage in the Sierra snowpack will melt off earlier in the year, so capturing and storing water when it is in the system will continue to grow in importance.

A water system that can take advantage of winter precipitation, without affecting endangered fish populations, **could have delivered an extra 371,000 acre feet of water to farms, residents and businesses in one month!** This is exactly why an alternate conveyance system, as proposed under the Bay Delta Conservation Plan (BDCP), is vital for the state's future.



**....limitations under the Endangered Species Act to protect delta smelt resulted in water supply losses of over 371,000 acre feet ...**



# Delta Watch

**A Project of the Coalition for a Sustainable Delta**

For more information, visit our updated website at [www.sustainabledelta.com](http://www.sustainabledelta.com) and follow [@DeltaWatch](#) on Twitter

**Coalition for a Sustainable Delta**

915 L Street, #C-438

Sacramento, CA 95814

[www.sustainabledelta.com](http://www.sustainabledelta.com)

Twitter: [@DeltaWatch](https://twitter.com/DeltaWatch)

**From:** Tom Birmingham

**Sent:** Friday, February 1, 2013 12:44 AM

**To:** 'Jason Peltier'

**CC:** 'Ed Manning'; 'Carolyn Jensen'; 'Bernhardt, David L.'; 'Karen, Catherine'; 'Joseph T. Findaro'; 'Karen Clark'; 'Michael Burns'; 'Tony Coelho'

**Subject:** Conference Call

Jason,

My flight back from DC was delayed, and I doubt that I will be on the call in the morning. Please go forward with the call, and you should act as the host.

Tom

**From:** Bernhardt, David L.

**Sent:** Wednesday, February 6, 2013 6:52 AM

**To:** Thomas W. (Tom) Birmingham Esq.; Joseph T. Findaro; Jason Peltier

**Subject:** Interior Secretary

FYI

>

> President Obama on Wednesday will nominate Recreational Equipment Inc.

> (REI) chief executive Sally Jewell to head the Interior Department,

> according to a White House official who asked not to be identified

> because the public announcement has not yet been made.

>

> The choice of Jewell — who began her career as an engineer for Mobil

> Oil Corp. and worked as a commercial banker before heading a nearly \$2

> billion outdoors equipment company — represents an unconventional

> choice for a post usually reserved for career politicians from the

> West.

>

> But while she boasts less public policy experience than other

> candidates who had been under consideration, Jewell — who will have to

> be confirmed by the Senate — has earned national recognition for her

> management skills and support for outdoor recreation and habitat

> conservation.

>

> In 2011 Jewell introduced Obama at the White House conference on

> “America’s Great Outdoor Initiative,” noting that the \$289 billion

> outdoor-recreation industry supports 6.5 million jobs.

>

> Jewell, who is being nominated to succeed Interior Secretary Ken

> Salazar, would take over at a time when many conservationists are

> pressing Obama to take bolder action on land conservation. Salazar

> devoted much of his tenure to both promoting renewable energy on

> public land and managing the 2010 Gulf of Mexico oil spill.

>

> On Tuesday former Interior Secretary Bruce Babbitt gave a speech at

> the National Press Club calling on the president to set aside one acre

> permanently for conservation for every acre he leases for oil and gas

> development.

>

> “It’s that simple: one to one,” Babbitt said. “So far, under President

> Obama, industry has been winning the race as it obtains more and more

> land for oil and gas. Over the past four years, the industry has

> leased more than 6 million acres, compared with only 2.6 million acres

> permanently protected. In the Obama era, land conservation is again

> falling behind.”

>

> Facing congressional opposition and budget constraints during Obama’s

> first term, Salazar emphasized the importance of enlisting private

> sector, state and local support to protect major landscapes through

> America’s Great Outdoors Initiative. Jewell emerged as a strong

> advocate of the policy, and is likely to continue such efforts.

>

> While public lands protection has traditionally enjoyed bipartisan

> support, this issue has become increasingly polarized, and the 112th

> Congress was the first one since 1966 to fail to designate a single

> piece of wilderness. Environmentalists such as Babbitt have urged

> Obama to use the Antiquities Act, which gives presidents the executive

> authority to set aside land as national monuments to protect

> ecologically valuable areas in the West.

>  
> Jewell has pushed for land conservation both in Washington state,  
> where she lives, as well as nationally. She is a founding board member  
> of the Mountains to Sound Greenway Trust, which focuses on a stretch  
> of land spanning from Puget Sound across the Cascades, and helped lay  
> out a plan for the National Park Service as a commissioner on the  
> "National Parks Second Century Commission."  
>  
> While Jewell is more closely identified with the Democratic Party than  
> the GOP, she made a high-profile appearance with Sen. John McCain  
> (R-Ariz.) back in 2008 when he was running for president. McCain spoke  
> with Jewell and others at an environmental policy roundtable outside  
> of Seattle, during which the senator argued he had stronger  
> environmental credentials than either Obama or Hillary Rodham Clinton,  
> who were both vying for the Democratic presidential nomination at the  
> time.  
>  
> Other contenders for the cabinet position in recent weeks included  
> former Washington Gov. Christine Gregoire (D), Interior deputy  
> secretary David Hayes and Sen. Tom Udall (D-N.M.).  
>  
>  
>  
> --  
> Doug Domenech  
> C: 202-255-9842

**From:** David Bernhardt  
**Sent:** Friday, February 8, 2013 7:24 AM  
**To:** Jason Peltier  
**Subject:** Fwd: So God Made a Fawner: Paul Harvey's ad was terrific. Steve Kroft's interview was shameful.

FYI

David Bernhardt

202-████-████ (cell)

Begin forwarded message:

**From:** "Tony" <[tc1000@verizon.net](mailto:tc1000@verizon.net)>  
**Date:** February 8, 2013 9:05:09 AM EST  
**To:** "Tony" <[tc1000@verizon.net](mailto:tc1000@verizon.net)>  
**Subject:** So God Made a Fawner: Paul Harvey's ad was terrific. Steve Kroft's interview was shameful.

- WSJ [DECLARATIONS](#) February 7, 2013

## **So God Made a Fawner: Paul Harvey's ad was terrific. Steve Kroft's interview was shameful.**

- **By PEGGY NOONAN**

So many people this week mentioned Dodge's great Super Bowl spot, "So God Made a Farmer," from a 1978 speech by the late Paul Harvey.

Here are some reasons it was great:

b " Because it spoke respectfully and even reverently of others. We don't do that so much anymore. We're afraid of looking corny or naive, and we fear that to praise one group is to suggest another group is less worthy of admiration. So we keep things bland and nonspecific. Harvey wasn't afraid to valorize, and his specificity had the effect of reminding us there's a lot of uncelebrated valor out there. It would be nice to hear someone do "So God Created Firemen," or "So God Created Doctors," but I'm not sure our culture has the requisite earnestness and respect. We do irony, sarcasm and spoofs: "So God Created Hedge Fund Managers." Anyway, it was niceb a real refreshmentb to hear the sound of authentic respect.



*Associated Press*

Sixty Minutes correspondent Steve Kroft in an interview with President Obama and Secretary of State Hillary Clinton in January.

b " Because it spoke un-self-consciously in praise of certain virtuesb commitment, compassion, hard work, a sense of local responsibility. The most moving reference, to me, was when Harvey has the farmer get up before dawn, work all day, and "then go to town and stay past midnight at a meeting of the school board." Notice the old word "town," not "community"b that blight of a word that is used more and more as it means less and less.

b " Because it explicitly put God as maker of life and governor of reality, again un-self-consciously, and with a tone that anticipated no pushback. God, you could say anything in Paul Harvey's day.

b " Because it was Paul Harvey, a great broadcaster and a clear, clean writer for the ear, who knew exactly what he was saying and why, and who was confident of the values he asserted. He wasn't a hidden person, he wasn't smuggling an agenda, he was conservative and Christian and made these things clear through the virtues and values he praised and the things he criticized. You could like him or not, but you understood that by his lights he was giving it to you straight as he could. He was often criticized as hokey, sentimental and overly dramatic, and sometimes he was. But mostly he was a pro who hit his mark every day, and it says something about his gifts that since he died in 2009, the ABC radio network has appointed a number of successors, but Harvey never really was replaced. Because he was irreplaceable.

Which gets us to another story involving a media figure and a media institution. I refer to Steve Kroft's interview, on "60 Minutes," with Barack Obama and departing Secretary of State [Hillary Clinton](#). That made a big impression too. It didn't remind us of a style or approach for which we feel nostalgia, but one about which we are feeling increased apprehension, and that is the mainstream media fawn-a-thon toward the current president.

The Kroft interview was a truly scandalous example of the genre. It was so soft, so dazzled, so supportive, so embarrassing. And it was that way from the beginning, when Mr. Kroft breathlessly noted, "The White House granted us 30 minutes." Granted. Like kings.

What followed was a steady, targeted barrage of softballs. "Why did you want to do this together, a joint interview?" Because, said the president, she's been one of the best secretaries of state ever, and theirs has been one of the greatest collaborations in history. Also, "I'm gonna miss her." No reading of the tea leaves here, pressed Mr. Kroft. We don't have tea here, Hillary laughed.



Throughout the president and the secretary sat closely, shoulder to shoulder, leaning into each other, nodding as the other spoke, praising each other in a way that praised themselves. I don't blame them for doing propagandab that's what White Houses do. But it's hard not blaming Mr. Kroft and "60 Minutes" for being part of it.

Why did you want her as secretary of state? Mr. Kroft asked. *Because she's so wonderful*, the president more or less responded, *and not unlike me in the profundity of her seriousness*.

Mr. Kroft noted that she had to be talked into taking the job. Mrs. Clinton said yes, she'd exhausted herself selflessly working to elect Mr. Obama in '08, she wasn't sure she wanted to take on a cabinet position. But he's so persuasive!

The president nodded, smiling. He noted that Mrs. Clinton travelled around the world carrying his forceful yet calibrated message.

"How would you characterize your relationship right now?" asked Mr. Kroft, the intrepid reporter. Hillary answered, "Very warm, close, I think there's a sense of understanding that doesn't even take words . . . a bond."

Mr. Kroft said he'd "spare you reading what was said" during the heated 2008 Democratic primary battles. And boy, did he spare them.

How did they overcome the tensions and hard words of that battle? "We're professionals," said Hillary.

"What do you think the biggest success has been, foreign-policy success, of the first term?"

The president could think of a number of them.

Really, access isn't worth this. The get isn't worth it. The entire interview reminded me of an old radio insult: When an interviewer didn't try to push and probe, didn't even try to get the story, the resulting interview was called "soft as a sneaker full of puppy excrement." No, they didn't say excrement.

We are living in the age of emergencyb the economy, the Mideast, North Korea, Iran. The president has an utter and historic inability to forge a relationship with Congress. Unemployment seems intractable.

And the best Steve Kroft and "60 Minutes" could do was how wonderful are you?

The Obama-Clinton relationship is interesting, but here are some questions about it that might have elicited more than outtakes for a Hillary 2016 commercial:

Mr. President, does your foreign policy really come out of the White House, even out of its political office, and not the State Department? Has the department's ability to formulate policy and be a player in terms of the development of grand strategy been diminished? Her first year in office Mrs. Clinton looked like someone who'd been put on a plane and told to do interviews on "Good Morning Manila" about how she met Bill. What do you say?

Mrs. Clinton, some think you held your tongue, made the best of a bad situation, worked the areas you could, moved forward on issues of particular concern like women's rights; that you

dummied up on Benghazi, demolished your congressional critics in one masterly day of testimony, and now have been rewarded for your loyalty and discretion with a joint presidential interview that amounts to an anointment for 2016. Can you comment?"

There is nothing wrong with being a declared liberal or conservative and conducting a sympathetic interview with a political figure who shares your views. Such interviews have their place and can be useful: a nondefensive, nonwary president elaborates on his thoughts, or commits accidental candor.

But Mr. Kroft is a reporter whose job it is to be impartial and nonpartisan, and who works for a towering journalistic institution, "60 Minutes."

People like him are supposed to approach political figures with no fear or favor.

Their job is to grill. What are they afraid of?

**From:** Tom Birmingham  
**Sent:** Saturday, February 9, 2013 11:48 AM  
**To:** 'Weaver, Kiel'  
**CC:** jpeltier@westlandswater.org; 'Bernhardt, David L.'; 'Joseph T. Findaro'  
**Subject:** Oversight Hearing  
**Attachments:** Smelt Distribution.png; Smelt Distribution 2.png; Smelt Distribution 3.png; 2013 OCAP BiOp Impacts Tally.pdf

Kiel,

When we met on January 31 we talked about the potential of the Subcommittee on Water and Power conducting oversight hearings. One subject of a potential hearing is the loss of water by the Central Valley Project and the State Water Project as a result of restrictions on project operations under the 2008 Delta smelt biological opinion in the 2012 - 13 water year. From December 7, 2012 through today, the CVP and SWP have lost in excess of 700,000 acre-feet of water due to these restrictions.

The export cuts we have experienced since early December have been imposed under the Smelt biological opinion because take of adult delta smelt by the SWP and CVP this season (Dec. 2012 – February 2013) is higher than in any previous year of 2008 BiOp/RPA implementation. If take of adult delta smelt continues at this rate during February and March, the adult take will exceed the take levels in the BiOp's incidental take statement ("ITS"). FWS has imposed further pumping restrictions, based on a goal of not exceeding the take estimates in the ITS.

People often refer to the values in an ITS as a "take limits." However, to the extent that use of this term implies that the estimate of take in an ITS cannot be exceeded without jeopardizing the species in violation of ESA section 7(a)(2), "limits" is a misnomer. The take numbers calculated in an ITS are not the threshold for jeopardy or adverse modification, but instead are supposed to be merely estimates of what FWS believes the take will be from a proposed action. The purpose of the number in the ITS is to estimate the expected number of a species that will be taken by the proposed action, not set a "do not exceed" limit. If the estimate of take in the ITS is exceeded, then consultation must be reinitiated. But exceeding the take estimate does not itself require that an action that is causing take cease or even be modified. The appropriate response to exceeding the take estimate is instead properly developed through reinitiation of consultation, and should be based on the standards of the ESA including use of the best available scientific data.

The ITS in the 2008 BiOp RPA estimated likely adult take using only three years of data, 2006-2008. FWS stated it believed these years best approximated expected salvage under RPA Component 1, because the smelt abundance and operations in these three years most closely represents expected future conditions under the RPA. FWS divided the adult salvage in each of these years by the corresponding FMWT index from the prior year (Sept. – Dec.), which created what FWS called the cumulative salvage index or CSI:

Year	FMWT Index	Adult Salvage	Cumulative Salvage Index (CSI)
2006	26	216	8.3
2007	41	36	0.88
2008	28	352	12.6
Average			7.25

FWS used the average CSI from these three years to calculate the incidental take for any year by the simple formula: Incidental take = 7.25 \* Prior Year's FMWT Index

In sum, adult smelt take in the ITS is simply 7.25 multiplied by whatever the previous year's FMWT index is. For 2012, the take estimate is therefore: 7.25 \* 42 = 305 adult smelt.

In the litigation on the 2008 BiOp, the district court remanded the ITS because it found several flaws in FWS's methods of calculating expected salvage under the RPA. The court found that these flaws created an unrealistically low take estimate for adult smelt. Therefore, exceeding the take levels in the ITS this year should be no surprise. It was bound to happen because the ITS numbers were artificially low and not a realistic estimate of adult take levels that could occur from operations under the RPA. Moreover, if the FWS used the same data set to calculate incidental take that it used to establish permissible levels of reverse flow in Old and Middle River, the ITS level would be more than double the number in the RPA. In addition, given the current distribution of smelt, it has been suggested that exceeding the take levels in the ITS will not affect abundance of the species next year.

One particularly disturbing aspect of the ITS for the CVP and SWP is that the authorized take level (305) is multiples less than incidental take for other activities, such as conducting scientific studies on Delta smelt. I am informed that the USGS has consulted on scientific studies it conducts, and the USGS is permitted to take in excess of 1,000 Delta smelt. One has to wonder why taking in excess of 1,000 smelt for scientific studies will not jeopardize the continued existence of the species, but taking 305 smelt by the projects is assumed to jeopardize the species. Stated differently, it's apparently okay to kill more than 1,000 fish for scientific study, but if the projects take a fraction of that number, the economy of the state suffers losses in the billions of dollars.

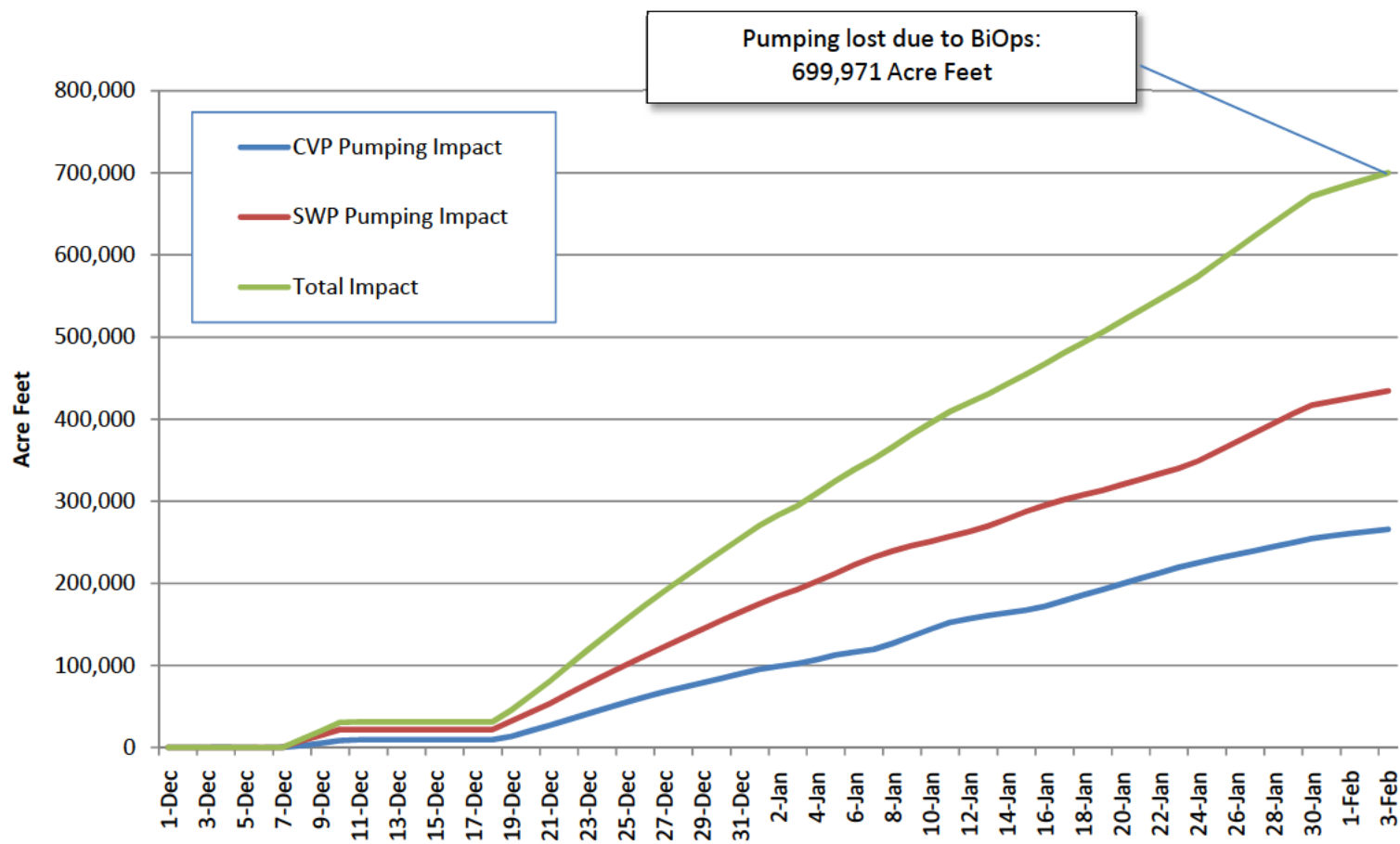
Among the questions that could be asked at an oversight hearing are:

1. How was the ITS in the 2008 BiOp calculated?
2. Why was such a limited data set used to calculate the ITS?
3. Had a more expansive data set been used to calculate the ITS, what level of incidental take been authorized?
4. Should the ITS have been modified in light of the district court's ruling that it was arbitrary and capricious?
5. What are permissible levels of incidental take of smelt under other incidental take statements issued by the FWS?
6. How can the disparity between different levels of authorized take be reconciled?
7. Were the restrictions imposed on operations CVP and SWP necessary to avoid jeopardy or adverse modification of critical habitat in this particular water year?
8. What population level effects to the species would have resulted had the restrictions not been imposed?
9. How much water was lost by the CVP and SWP because of restrictions imposed under the 2008 BiOp?
10. What are the economic losses resulting from that loss of water?
11. What are Reclamation, the action agency, and FWS doing to avoid future losses?

Please let me know if you think the Subcommittee would be interested in conducting a hearing on this subject. If you need additional information, please let me know.

Thank you,  
Tom

## 2013 Cumulative Water Supply Impacts From Biological Opinion Restrictions



**From:** Tom Birmingham

**Sent:** Saturday, February 9, 2013 12:31 PM

**To:** 'Karen Clark'

**CC:** 'Don Peracchi'; 'Tony Coelho'; 'Bernhardt, David L.'; joe.findaro@akerman.com; 'Sarah Clark Woolf'; 'Ed Manning'

**Subject:** Meeting with Representative Kevin McCarthy

Karen,

Please contact Vince Fong to arrange a meeting for Don Peracchi and me with Representative Kevin McCarthy. Mr. Fong's contact information is:

Vince Fong  
District Director  
Congressman Kevin McCarthy  
vince.fong@mail.house.gov  
661-■■■■-■■■■ cell

Mr. Fong is expecting the request and Mr. McCarthy is aware of the purpose of the meeting. Please schedule the meeting for the first available date that Mr. McCarthy will be in Bakersfield, and make any necessary changes to my calendar.

Tom

**From:** Marklund, Chris  
**Sent:** Tuesday, February 26, 2013 2:43 PM  
**To:** Tom Birmingham  
**Subject:** Follow-up

Tom,

Great talking to you today. Thank you for clarifying the language for me. I look forward to hearing from your water attorney on the rider and working the language through the legislative process.

In looking at our upcoming schedule, I wanted to draw your attention to a few upcoming hearings:

Wednesday, March 6, 9:30 a.m. Department of the Interior Briefing Ken Salazar, Secretary, Department of the Interior ( Not on the record)

Wednesday, March 13, 9:30 a.m. Water Infrastructure Financing Oversight Hearing EPA, GAO

Thursday, March 14, 9:30 a.m. Impact of Litigation on Resource Management David Bernhardt, former Solicitor, DOI

Thursday, March 21, 9:30 a.m. Environmental Protection Agency Bob Perciasepe, Acting Administrator

Wednesday, April 10, 9:30 a.m. U.S. Fish & Wildlife Service Dan Ashe, Director, Fish and Wildlife Service

These are all good opportunities to get the agencies on the record on issues relating to CA Water Supply Management and the Smelt, among other topics. If you have any questions you'd like to post to them, we're happy to submit them. They can be as technical and specific as you like because they can be submitted for written response.

Looking forward to working with you.

Chris

--

Chris Marklund  
Legislative Director  
Rep. David Valadao  
1004 Longworth House Office Building  
Washington, DC 20024  
Ph: 202-225-4695  
Fax: 202-225-3196  
[Chris.Marklund@mail.house.gov](mailto:Chris.Marklund@mail.house.gov)

**From:** Jason Peltier  
**Sent:** Thursday, February 28, 2013 12:57 PM  
**To:** David Bernhardt  
**CC:** T Birmingham  
**Subject:** Good job

## Speaker Boehner's right-hand man heads to K Street in blockbuster hire

By Kevin Bogardus - 02/28/13 09:14 AM ET

Barry Jackson, a long-time senior adviser to Speaker John Boehner (R-Ohio), is heading to K Street.

Jackson has agreed to join Brownstein Hyatt Farber Schreck as a strategic adviser, delivering a coup to one of the top-earning lobby firms in Washington.

The blockbuster hire brings a premier Republican name in Washington politics to the firm. In Jackson, Brownstein Hyatt will have one of the Speaker's longest-serving and most trusted aides, giving the firm access and insight into the House GOP majority that few can match.

Jackson managed Boehner's first House campaign in 1990 and served as the Ohio Republican's chief of staff for 10 years. He also worked in the White House as a senior aide to former President George W. Bush during his two terms.

Jackson returned to the House in January 2010 as Boehner's chief of staff after the lawmaker's top aide, Paula Nowakowski, passed away. He held that position until June last year.

Brownstein Hyatt is a firm on the rise, and was one of the few big shops to see growth in lobbying revenue last year. It reported earning \$22.5 million in lobbying fees for 2012 — a 2 percent jump over its take for 2011.

The firm also announced that it has hired Elizabeth Maier, who was former Sen. Jon Kyl's (R-Ariz.) legislative director.

Maier joined the firm on Feb. 25 and is a policy director at Brownstein Hyatt.

Jackson's first day at the firm is scheduled for this Friday, March 1.

Read more: <http://thehill.com/business-a-lobbying/285437-boehners-right-hand-man-heads-to-k-street-in-blockbuster-hire#ixzz2ME2t0PLY>

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**From:** Tom Birmingham  
**Sent:** Tuesday, March 5, 2013 5:31 AM  
**To:** 'Marklund, Chris'  
**Subject:** Rider  
**Attachments:** shorterrider.docx

Chris,  
Attached is the document with comments from David Bernhardt. I suggest you use this version.  
Tom

SEC. \_\_\_\_ (a) The Secretary of the Interior, acting through the Commissioner of the Bureau of Reclamation, shall obligate such funds appropriated for the current fiscal year by the Energy and Water Development Appropriations Act, or funds otherwise made available to the Commissioner of the Bureau of Reclamation, as may be required to reinitiate consultation after remand of the December 15, 2008, United States Fish and Wildlife Service Biological Opinion [and the June 4, 2009, United States National Marine Fisheries Service Biological Opinion regarding the effects of the operations of the Central Valley Project on the effects of the Proposed Coordinated Operations of the Federal Central Valley Project](#) and the California State Water Project on ~~the threatened listed species delta smelt (*Hypomesus transpacificus*) and as may be required to reinitiate consultation after remand of the June 4, 2009, United States National Marine Fisheries Service Biological Opinion on the Long-Term Operations of the Central Valley Project and State Water Project.~~

(b) [Until Pending](#) acceptance by the Bureau of Reclamation of new biological opinions resulting from the consultations ~~described in~~ subsection (a), all requirements of the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) shall be considered to be fully met for the ~~protection and conservation of the species affected by~~ operations of the Central Valley Project and the California State Water Project; provided, that the Central Valley Project and the California State Water Project are operated in accordance with the October 22, 2004, *Biological Opinion on the Long-Term Central Valley Project and State Water Project Operations Criteria and Plan*, issued by the National Marine Fisheries Service, ~~Southwest Region~~, and the February 15, 2005, Biological ~~Opinion issued~~ [Opinion by the Fish and Wildlife Service](#) addressing ~~the operations Reinitiation of Formal and Early Section 7 Endangered Species Consultation on the Coordinated Operations of the Central Valley Project and State Water Project; and the Operations Criteria and Plan to Address Potential Critical Habitat Issues, issued by the Fish and Wildlife Service;~~ and, provided further, that for each calendar year, during the period beginning on December 1 and ending on June 30, the Central Valley Project and the California State Water Project shall be operated to maintain reverse flow in Old and Middle Rivers to a 14-day average of the mean daily reverse flow not more negative than -6,000 cubic feet per second.

**From:** Bernhardt, David L.

**Sent:** Tuesday, March 5, 2013 3:22 PM

**To:** Jason Peltier (jpeltier@westlandswater.org); Thomas W. Birmingham (tbirmingham@westlandswater.org)

**Subject:** FW: Court agrees to rehear challenge to Calif. water contracts

FYI

# Court agrees to rehear challenge to Calif. water contracts

Jeremy P. Jacobs, E&E reporter

Published: Tuesday, March 5, 2013

A federal court today agreed to rehear a challenge to the Interior Department's approval of water contracts before determining whether they pose a risk to threatened delta smelt in California.

Last July, the 9th U.S. Circuit Court of Appeals upheld a lower court ruling in a lawsuit brought by the Natural Resources Defense Council and other environmental groups. The advocates contend that the Bureau of Reclamation violated the Endangered Species Act when it failed to consult other agencies on whether 41 water service contracts would pose a risk to the smelt.

The 2-1 ruling was sharply criticized by the groups, which asked the court for an *en banc* rehearing, meaning before all judges on the San Francisco-based 9th Circuit.

"If ever a court decision warrants rehearing, it is this one," Jason Rylander of Defenders of Wildlife said today. "The panel's decision to exempt water diversion contracts from endangered species review contradicts the plain language of the Endangered Species Act and ignores binding circuit precedent."

At issue are contracts that would move millions of gallons of water from California rivers that the Bureau of Reclamation renewed in 2005. Environmentalists and wildlife advocates charged that Section 7 of the Endangered Species Act required the agency to consult either the Fish and Wildlife Service or the National Marine Fisheries Service.

Writing for the majority, however, Judge Procter Hug wrote that the Section 7 requirement applies only to "discretionary" agency action. The contracts, Hug wrote, were not discretionary because they were set to comply with California water law, not federal law.

Under the California statute, "the Bureau is required to renew these contracts upon request," Hug wrote.

The majority also held that the groups did not prove that they would be injured by the contracts and, consequently, lacked standing to challenge the Bureau of Reclamation's decision.

In his dissent, Judge Richard Paez said the contracts were discretionary because the Bureau of Reclamation could have simply chosen not to renew the contracts and because it could have renegotiated them.

The groups first filed a lawsuit in 2004 over a biological opinion that said the contract renewals would not pose a risk to the smelt in the Sacramento-San Joaquin River Delta. The Fish and Wildlife Service opinion was revised in 2008 to conclude that they would ([E&ENews PM](#), July 17, 2012).

Judges on the 9th Circuit also heard two other cases involving the delta smelt biological opinion last year, but the court has yet to rule on them.

[Click here](#) for today's order.

[Click here](#) for the July 2012 opinion.

Jon Hrobsky  
Policy Director  
Brownstein Hyatt Farber Schreck, LLP  
1350 I Street, NW, Suite 510  
Washington, DC 20005-7353  
T 202 872.5294  
C 202 [REDACTED]

To ensure compliance with requirements imposed by the IRS, we inform you that any federal tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for purposes of (i) avoiding penalties under the Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any transaction or tax-related matter addressed herein.

This transmission and any attachment is attorney privileged and confidential. Any dissemination or copying of this communication is prohibited. If you are not the intended recipient, please notify us immediately by replying and delete the message. Thank you.

**From:** Jason Peltier

**Sent:** Friday, March 8, 2013 8:30 AM

**To:** 'Karen Clark'; 'Tony Coelho'; 'Carmela McHenry'; 'Carolyn Jensen'; 'David Bernhardt'; 'Doug Subers'; 'Ed Manning'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'Mike Burns'; 'Susan Ramos'; Cathrine Karen; T Birmingham

**Subject:** FW: Revised Administrative Draft BDCP schedule

FYI

Sent from my iPhone

Begin forwarded message:

**From:** "Wright, Craig" <[cwright@gth-law.com](mailto:cwright@gth-law.com)>

**Date:** March 7, 2013 5:16:45 PM PST

**To:** "Joan Maher " <[jmaher@valleywater.org](mailto:jmaher@valleywater.org)>, <[RPatterson@mwdh2o.com](mailto:RPatterson@mwdh2o.com)>, <[jkightlinger@mwdh2o.com](mailto:jkightlinger@mwdh2o.com)>, <[jbeck@kcwa.com](mailto:jbeck@kcwa.com)>, <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)>

**Cc:** "Waldo, James" <[JWaldo@gth-law.com](mailto:JWaldo@gth-law.com)>, "Wright, Craig" <[cwright@gth-law.com](mailto:cwright@gth-law.com)>

**Subject:** Revised Administrative Draft BDCP schedule

On the call today we promised to provide you with this schedule.

March 12 or 14 (Tuesday or Thursday) – Roll out chapters 1-4

March 20 or 22 (Wednesday or Friday) – Public meeting chapters 1-4

March 27 (Wednesday) – Roll out chapters 5-7

April 4 (Thursday) – Public meeting chapters 5-7

Week of April 22 – Roll out chapters 8-12

Week of April 29 – Public meeting chapters 8-12

Best regards,

Craig

**Craig Wright**  
**T** 206 676 7528

**C** 206 390 2978  
**F** 206 676 7575

**From:** Karen Clark

**Sent:** Thursday, March 28, 2013 5:17 PM

**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erick Mullen; Fowler West; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; MargaretAnn Corbett; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'

**Subject:** March 29, 7:30 a.m. PST Conference Call

**Importance:** High

All,

This is a reminder that we will have a 7:30 a.m. PST conference call tomorrow, March 29.

Tom has asked that a few others join the call tomorrow (listed on the email distribution), however, I'll list everyone for your convenience.

Carolyn Jensen, KP Public Affairs  
Catherine Karen, Sidley Austin  
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Doug Subers, KP Public Affairs  
Ed Manning, KP Public Affairs  
Erick Mullen, Mercury/Clark & Weinstock  
Fowler West, Mercury/Clark & Weinstock  
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Tom Birmingham, Westlands Water District  
Jason Peltier, Westlands Water District  
Joe Findaro, Akerman  
Mike Burns, KP Public Affairs  
Susan Ramos, Westlands Water District  
Tony Coelho  
Karen Clark, Westlands Water District

If you have any questions, feel free to contact me.

Sincerely,

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Jason Peltier

**Sent:** Thursday, March 28, 2013 5:28 PM

**To:** 'Karen Clark'; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'Cheryl Faunce'; 'David Bernhardt'; 'Dennis Cardoza'; 'Denny Rehberg'; 'Doug Subers'; 'Ed Manning'; 'Erick Mullen'; 'Fowler West'; 'Gayle Holman'; 'Joe Findaro'; 'MargaretAnn Corbett'; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'; T Birmingham

**Subject:** RE: March 29, 7:30 a.m. PST Conference Call///// Link to State release on latest batch of chapters

[http://baydeltaconservationplan.com/Libraries/Dynamic\\_Document\\_Library/Press\\_Release - Brown Administration Releases Additional Chapters of Preliminary Draft BDCP 3-27-13.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Press_Release_-_Brown_Administration_Releases_Additional_Chapters_of_Preliminary_Draft_BDCP_3-27-13.sflb.ashx)

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]

**Sent:** Thursday, March 28, 2013 5:17 PM

**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erick Mullen; Fowler West; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; MargaretAnn Corbett; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'

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Tony Coelho  
Karen Clark, Westlands Water District

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Sincerely,

~Karen

Karen Clark

Executive Assistant to Thomas W. Birmingham



Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Cheryl Faunce  
**Sent:** Thursday, March 28, 2013 5:49 PM  
**To:** Karen Clark  
**Subject:** Re: March 29, 7:30 a.m. PST Conference Call///// Link to State release on latest batch of chapters

Karen. What is the Conference call number?

Sent from my iPhone

On Mar 28, 2013, at 8:39 PM, "Jason Peltier" <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)> wrote:

[http://baydeltaconservationplan.com/Libraries/Dynamic\\_Document\\_Library/Press\\_Release -  
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**From:** Karen Clark [<mailto:kclark@westlandswater.org>]  
**Sent:** Thursday, March 28, 2013 5:17 PM  
**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erick Mullen; Fowler West; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; MargaretAnn Corbett; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'  
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Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Karen Clark  
**Sent:** Thursday, March 28, 2013 5:52 PM  
**To:** 'Cheryl Faunce'  
**Subject:** RE: March 29, 7:30 a.m. PST Conference Call//// Link to State release on latest batch of chapters

800-██████ pass code ██████

~Karen

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559 ██████  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Cheryl Faunce [<mailto:cfaunce@cwdc.com>]  
**Sent:** Thursday, March 28, 2013 5:49 PM  
**To:** Karen Clark  
**Subject:** Re: March 29, 7:30 a.m. PST Conference Call//// Link to State release on latest batch of chapters

Karen. What is the Conference call number?

Sent from my iPhone

On Mar 28, 2013, at 8:39 PM, "Jason Peltier" <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)> wrote:

[http://baydeltaconservationplan.com/Libraries/Dynamic\\_Document\\_Library/Press\\_Release -  
Brown Administration Releases Additional Chapters of Preliminary Draft BDCP 3-27-13.sflb.ashx](http://baydeltaconservationplan.com/Libraries/Dynamic_Document_Library/Press_Release_-_Brown_Administration_Releases_Additional_Chapters_of_Preliminary_Draft_BDCP_3-27-13.sflb.ashx)

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**From:** Karen Clark [<mailto:kclark@westlandswater.org>]  
**Sent:** Thursday, March 28, 2013 5:17 PM  
**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erick Mullen; Fowler West; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; MargaretAnn Corbett; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'  
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Tony Coelho  
Karen Clark, Westlands Water District

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Sincerely,

*~Karen*

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(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Cheryl Faunce  
**Sent:** Thursday, March 28, 2013 6:00 PM  
**To:** Karen Clark  
**Subject:** Re: March 29, 7:30 a.m. PST Conference Call///// Link to State release on latest batch of chapters

Okay same as the weekly call

Sent from my iPhone

On Mar 28, 2013, at 8:51 PM, "Karen Clark" <[kclark@westlandswater.org](mailto:kclark@westlandswater.org)> wrote:

800-████-████ pass code █████

*~Karen*

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**From:** Jason Peltier

**Sent:** Friday, March 29, 2013 9:28 AM

**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'Cheryl Faunce'; 'David Bernhardt'; 'Dennis Cardoza'; 'Denny Rehberg'; 'Doug Subers'; 'Ed Manning'; 'Erick Mullen'; 'Fowler West'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'MargaretAnn Corbett'; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'; T Birmingham

**Subject:** FYI, Garamendi: A Water Plan for all of California

<http://garamendi.house.gov/sites/garamendi.house.gov/files/documents/WaterPlanForAllOfCalifornia.pdf>

## A WATER PLAN FOR ALL OF CALIFORNIA

U.S. Representative John Garamendi (CA-03) March 27, 2013

We need to think in a comprehensive way about water in California. The controversial Bay Delta Conservation Plan (BDCP)<sup>1</sup> is an outdated and destructive plumbing system. It does not create any new water nor does it provide the water and the ecological protection that the Golden State must have. California and the federal government must set aside this big, expensive, destructive plumbing plan and immediately move forward with a comprehensive approach that includes:

- 1) Conservation,
- 2) Recycling,
- 3) The creation of new storage systems,
- 4) Fix the Delta - right sized conveyance, levee improvements, and habitat restoration,
- 5) Science driven process,
- 6) Protection of existing water rights.

This combination of projects constitutes a comprehensive water plan for the state.

Through a comprehensive plan that brings all stakeholders to the table, California can solve its water needs, and it can avoid the continuous water wars that have long divided our state. Unfortunately, California is once again embroiled in a bitter water war brought about by the Bay Delta Conservation Plan, the most recent attempt to fix California's water supply. After more than five years of study and over \$200,000,000 spent on consultants, the process has become bogged down and turned into another battle pitting north vs. south, water exporters vs. environmentalists, and senior water right holders vs. new comers. A classic California water brawl is in full bloom.

The BDCP water plan for California is to take water out of the Sacramento River just south of Sacramento and put it into two tunnels each 40 miles long, 40 feet in diameter and with a potential capacity of moving 15,000 cubic feet per second (cfs). While the current proposal is set up to move 9000 cfs, the twin tunnels have a much larger capacity therefore setting the system up for future expansion. Pumping would also continue directly from the southern Delta at the Tracy pumps. The system will be able to deliver up to 5.3 million acre feet of water to the pumps in Tracy and then on to the San Joaquin Valley farmers and Los Angeles.

So what is wrong with the BDCP? It is not a water plan for California. It does not create one gallon of new water. It does not solve the long term needs of the state. With a minimum estimated construction and operating cost over 50 years of \$24.5 billion, it is an extraordinarily expensive plumbing system dressed up with a coating of habitat restoration. The plan simply takes water from one region and delivers it to another while tearing up acres of prime agricultural farm land in the process. All of this while stoking the fire of divisiveness over water that has plagued our state for years.



A quick look at the water flow in the Sacramento River over the last two decades shows that approximately six months out of the year there is somewhere between 15 and 20 thousand cubic feet per second (cfs) of water flowing in the Sacramento River. The BDCP proposal has the potential to suck the river dry and destroy the largest delta estuary on the west coast of the Western Hemisphere. Critical habitat for dozens of fish species like salmon, striped bass, and sturgeon would be threatened. These fish and the water they live in are crucial for jobs, agriculture and fishing businesses, and the region's economy.

We should never build a water system that has such destructive potential. It is never safe to assume that ecological concerns will trump greed and thirst. We should keep in mind that in 2012 the U.S. House of Representatives voted on H.R. 1837, the euphemistically titled Sacramento-San Joaquin Valley Reliability Act. The bill passed by a vote of 246 to 175 and swept away all environmental protections for the Delta while stealing 800,000 acre feet of water from the aquatic environment. Luckily, the legislation was derailed in the U.S. Senate, but H.R. 1837 in one form or another is likely to return in future legislative battles.

California must move beyond a patched plumbing system. We need to think about what California really needs, and what it needs is a comprehensive water plan. Big changes are coming that threaten our water supply and our economy. A short list of these challenges include: climate change and related weather events, population growth, world food supplies, and earthquakes.

Climate change is real and its effect on California will be significant. The Colorado River Basin is in a prolonged drought, and likely to be much drier in the future. Based on today's water flows, the water in the Colorado River is oversubscribed by a third and projections indicate less water in the future. This is a big, big problem for the seven states that rely on the river, and especially for Southern California.

The Sierra Nevada Mountains, the Central Valley, and the coastal ranges will also be drastically impacted by climate change. We know that the timing of the precipitation is going to change and the snow is already melting earlier. As a result, the snowpack is moving up the mountains and while it may be deeper at the higher altitudes, the amount of land it covers is greatly reduced.

It's the lower snowpack that has the greatest volumes of water and if that continues to recede, we will have less and less water. The 2009 "California Water Plan," published by the California Department of Water Resources, estimates that the snow pack will decrease 25-40 percent by 2050.<sup>2</sup> We must also anticipate more severe storms and flooding. All of this means the natural and man-made storage systems will hold less water. Putting the denial of scientific facts aside, California has to deal with the reality of climate change and its water policy implications.

We know California's population will continue to grow and therefore, the demand for water will increase. We know the world will be very hungry in the future, and we know that the role of agriculture in California is going to be exceedingly important. California agriculture not only fills our own desire for diverse and nutritious foods, but it will also continue to meet basic food needs for people around the world and will continue to serve as an essential component of our nation's economy.

We know the Delta is in serious trouble. The fish species are threatened with extinction and a total collapse of the estuary ecosystem is possible if the current water pumping program continues. Rising sea levels and deferred maintenance threaten the Delta levees which protect nearly 500,000 people, thousands of acres of valuable farm land, and miles of critical highways, gas and water transmission lines, and water delivery channels. Major upgrades are needed.

For these reasons, California must take off its blinders and expand its scope when thinking about ways to manage its water supply. It must be a holistic approach that is applied to every project that will impact the water needs of all Californians.

## **SIX BUILDING BLOCKS FOR CALIFORNIA'S WATER FUTURE**

To achieve this comprehensive approach, here are six specific actions to provide a foundation for California's water future. If California does all of these, we will create new water supplies and better use the resources we already have:

- 1) Conservation,
- 2) Recycling,
- 3) The creation of new storage systems,
- 4) Fix the Delta - right sized conveyance, levee improvements, and habitat restoration,
- 5) Science driven process,
- 6) Protection of existing water rights

### *CONSERVATION*

The quickest and cheapest source of new water is to stretch our current supplies by conserving what we have. Californians have been at this for years in our cities, in our industries, on the farm, and in our homes. We have engaged in serious water conservation, yet more can and should be done everywhere.

There are many conservation strategies. One conservation strategy is to use devices that measure the moisture in the soil to provide real time monitoring of the exact amount of water needed for ideal growing conditions. These devices are connected to a computer that automatically turns on just the right amount of water. These systems are in use and conserve at least ten percent with a financial payback in less than one year. If they were deployed widely perhaps at least 1 percent of the 30 million acre feet of water consumed by agriculture could be saved each year (300,000 acre feet).<sup>3</sup>

All of us are going to do a lot more water conservation, not just the agriculture community. The water conservation mandate set by the state is a 20 percent reduction per capita by 2020 which equals 1,600,000 acre feet.<sup>4</sup> In a very real way conservation can create new water that was not previously available for use. To be on the conservative side, let us assume that just one quarter of the State's goal could be obtained in the next decade, thereby adding 400,000 acre feet of new water to our supplies each year.

### *RECYCLING*

Can you name the fifth biggest river on the west coast of the Western Hemisphere? It's the water that flows out of the sanitation plants in Southern California and is dumped into the Pacific Ocean.

Why would any sane government take water from the Sacramento River, pump it 500 miles south, lift it 5,000 feet in the air, clean it, use it once, clean it to a higher standard than the day it arrives in Southern California, then dump it in the ocean? That is what California does with over 3.5 million acre feet of water each year.

We need to think seriously about recycling, not just in Southern California, but everywhere. The state currently recycles approximately 650,000 acre feet of water each year. However, WaterReuse California estimates that by using existing technologies, a serious recycling program could increase that total to 1.5 million acre feet of new water in Southern California by 2020, and 2.5 million acre feet by 2030.<sup>5</sup>

Another option is desalination of ocean. While this is feasible and used extensively throughout the world, it is not a viable option for all communities and it costs about 40 percent more to desalinate sea water than to recycle water using current technology. However, technological advances are being pursued for both recycling and desalination that could lower the costs of both.

In the next ten years, conservation and recycling in California can create approximately 2.2 million acre feet of new water to use each year, and that can increase to 3.2 million acre feet in twenty years. This is new water that is not available today because it is wasted or pumped out to sea. It can be developed at a reasonable cost when compared to all other alternatives that might be out there. Conservation and recycling are steps one and two in a comprehensive water program for California.

### *CREATE NEW STORAGE*

Water storage south of the Delta is possible and necessary. The capacity of the great Delta pumps near Tracy is 15,000 cubic feet per second. They are designed to meet maximum demand south of the Delta. They do not operate year round, only when there is sufficient water in the Delta, when threatened fish are not near the pumps, and when there is agricultural and urban demand south of the Tracy pumps. There is very limited water storage capacity south of the Delta. We must build more. San Luis and Los Vaqueros reservoirs could be expanded. New dams could be built at Los Banos Grandes, Temperance Flats, and numerous smaller off stream sites throughout the San Joaquin Valley. There are extensive and numerous aquifers throughout the San Joaquin Valley that may prove suitable to store additional water that would be used in a conjunctive water management system. With these water storage facilities in place and a smaller cross Delta facility operating year round, the need for havoc causing, excessive pumping in the Delta could be avoided.

When coupled with recycling, the underground aquifers in Southern California are another key to our water future. The underground aquifers of the Santa Ana River in Orange County, the San Fernando Basin, Chino Basin, San Bernardino, San Gabriel Basin, and others have a combined capacity larger than Shasta Reservoir, the largest man made reservoir in the state. Today, some recycled water is put into the underground water basins to be stored for those inevitably dry years. When needed, it is pumped out, used, cleaned and returned to storage. On a larger scale this recycling system could create as much as 2.5 million acre feet of new water<sup>6</sup>, and thereby reduce the need for shifting Colorado River supplies and imports from the Sacramento River.

Surface and underground storage should be used in a conjunctive water management program. Use the rivers when there is lots of water and use the reservoirs when there is little. Another way to describe this strategy is “big gulp” and “little sips.” When there are low flows in the Delta the system would take a little sip. When there is excessive water in the Delta, the system would take a big gulp, but there must be some place to put that water when the big gulp is taken. Therefore, the surface and sub-surface reservoirs south of the Delta become an essential element in a California water plan.

Water storage north of the Delta is also important, and three proposals are on the books today. An off stream reservoir at Sites, located west of Williams, has great promise for storage and for creating greater flexibility in managing the Sacramento River for salmon runs, water demand, and Delta outflow. This reservoir can deliver 500,000 acre feet of annual yield and the additional flexibility that it offers can under some scenarios save another 500,000 acre feet of water that would otherwise be released into the river systems.<sup>7</sup> Raising Shasta Dam is also possible, as is better conjunctive management of the many aquifers in the Sacramento Valley. State and federal agencies have already commenced studies for these projects. A quick completion of these studies is essential.

### *FIX THE SACRAMENTO – SAN JOAQUIN DELTA*

The current plan for the BDCP is a dual use facility with the main focus on the twin tunnels with a capacity of 15,000 cubic feet per second, and the continued use of the Delta channels for moving water from the Sacramento and San Joaquin rivers to the Tracy pumps. This dual use system adds another layer of risk to the eco-system and agricultural economy of the Delta with the potential for the massive tunnels to suck the Delta dry from the north and from the south with the thirsty pumps. In scale, the cost and destructive potential of this project will rival the Three Gorges Dam on the Yangtze River in China. The twin tunnel proposal is a large scale, destructive project that does not create one gallon of new water for a thirsty California.

The location of the intakes for the twin tunnels is in the heart of the rich farm lands of the northern Delta, near the small community of Courtland. Thousands of acres of valuable farmland essential to California agriculture production will be destroyed during construction of the project, and, following completion, a vast industrial zone of pumping stations, fish screens, reservoirs, and electrical stations will impede on one of California's great agricultural regions. Along the forty mile route of the twin tunnels the construction process will produce a total of 22 million cubic yards of tunnel muck. This combination of soil and conditioning agents will have to be

stored and managed and the latest draft of the plan calls for storage areas along the tunnel ranging in size from 100 to 570 acres. The amount of muck extracted would be enough to cover 100 football fields to a height of roughly 100 feet, and in the end will destroy close to 1600 acres of farm land while disrupting domestic and agricultural water wells.

### *A SOLUTION FOR THE DELTA*

Go forward carefully; start small; use science to evaluate each step; then proceed to the next step. Remember the Delta is a unique and precious environmental asset. We must take care of it. A narrowly focused plumbing system like the BDCP will not achieve progress in creating a water supply sufficient for California's future. We must pursue a holistic, comprehensive approach that will achieve a bigger bang for our buck.

First, reduce demand on the Delta with steps one, two and three: water conservation, recycling, and strategic use of storage facilities. Use the "Big Gulp, Little Sip" pumping strategy. Move forward with the flood plain and fresh and saltwater marsh habitat improvements. Repair and improve the key Delta levees. Evaluate the effect on the Delta as these projects come on line. Then, and only if necessary, proceed with a conveyance system that is much smaller and with a reduced capacity to destroy.

A much smaller facility with a capacity of no more than 3,000 cubic feet per second could be built to deliver water from the Sacramento River to the Tracy pumps. With the normal minimum flows in the Sacramento River above 15,000 cfs, a small 3,000 cfs facility could operate at least 300 days in most years, delivering approximately two million acre feet of water south to the pumps at Tracy where it would be pumped south to the new and expanded storage facilities.

There are several alternative ways to build this smaller system. One alternative is found with a careful look at the Delta map which reveals that two thirds of this Delta friendly system is already built. Two miles from the State Capital is the Port of Sacramento and the shipping channel that ends 25 miles south near Rio Vista. From there it is thirteen miles to existing channels and the Tracy pumps. The Federal Government already owns the land along the river where an intake and fish screen could be built, allowing 3000 cfs of Sacramento River water to enter the channel and flow south to a shipping lock at the southern end of the channel. Then, pumps could deliver the water into a short 12-mile pipe beneath the Sacramento and San Joaquin Rivers and into the existing Delta channels that lead to the Tracy Pumps. The threatened Delta fish could be protected by

sealing the channel from the Delta. Such a smaller facility is less costly than two 40-foot diameter, 40-mile long tunnels that devastate large swaths of the Delta and put the entire Delta at risk.

It is correct that this smaller facility like the twin tunnels is insufficient to quench the thirst of the Southern water contractors. This is where the southern reservoirs and the "Little Sip, Big Gulp" strategy comes into play. In normal water years there is sufficient water in the Delta to allow the pumps to take a big gulp of two million acre feet of water. This amount together with the two million acre feet delivered through the 3,000 cfs facility and the new water developed from conservation and recycling efforts could add up to six million acre feet. This plan would create

far more new water than will ever be available with the current BDCP plan, which in its current state creates nothing new, except new destruction.

### *IMPROVE DELTA LEVEES*

This small 3,000 cfs proposal and the current twin tunnel BDCP proposal envision the continued use of the existing Delta levee system as water conveyance channels for the delivery of water to the big pumps at Tracy. However, the BDCP has neither a plan nor funding for the maintenance of the levees that are crucial for their proposed water conveyance system. The Delta levees must be upgraded and maintained if water is to be transported through the Delta and if the Delta agriculture, infrastructure, ecology and people are to be protected.

No sane homeowner would go fifty years without maintaining their plumbing system. For more than fifty years, the Bureau of Reclamation and the California Department of Water Resources have used the Delta levees as a plumbing system to deliver water from the Sacramento River to the Tracy pumps. Yet, they have spent virtually no money maintaining these critical levees, the failure of which could shut down water deliveries for an extended period of time. The Federal and State agencies have relied upon the local reclamation agencies to do the repairs, literally giving the exporters a free ride. When a levee does give way and an island is flooded, it is the local agency and federal and state governments that foot the bill to repair the levees, often at a much greater cost than would have been necessary with basic maintenance.

Legislation is necessary to require that the Federal and State water contractors, who have for years and will continue for even more years depended upon the Delta levees for the delivery of water to their fields and cities, pay a part of the levee maintenance cost.

### *HABITAT RESTORATION*

The BDCP envisions restoring flood plains and the salt and freshwater marsh habitat of the Delta in an effort to restore the fisheries. However, a series of questions are raised: where to do it, how much to do, what type, at what cost and who is to pay for the restoration? Those who have created the ecological problem should pay for the restoration of the problem. All this will require careful attention to science, and a careful balance between competing goals. Current science indicates that no amount of habitat restoration can compensate for the damage done to fish from excessive water exports.

### *LET SCIENCE DRIVE THE PROCESS*

The BDCP and any other proposal must be based and driven by quality science that measures and informs decisions. California and federal law require that the Delta aquatic and terrestrial ecosystems be protected. We must do so, not just because the laws demand it, but because our status as human beings on this planet demands that we pay attention and protect precious and rare ecosystems. Also, healthy ecosystems provide a valuable asset to our communities because

healthy ecosystems help to ensure we have healthy water. If we let the ecosystems fall by the wayside, our water will get dirtier making it increasingly difficult and costly to clean it up enough to use. For all of these reasons, we must let science govern.

The BDCP anticipates 50-year permits from state and federal agencies to allow incidental takes of endangered fish species. Once granted, the water exporters will have assurances that the project can take covered species and pump Delta water despite changes in the environment. To date, BDCP has not built in flexibility to address the inevitable changes that will occur and the damage that could be done if the plan does not account for climate change.

We must also use science to understand our river basins in the age of climate change. Dams on California Rivers serve multiple purposes of water storage, flood protection, electric power generation, recreation, and environmental river flows. Current dam operations on California Rivers place flood protection as the first priority followed by water storage. The decisions to release water to create greater flood storage are based on the average river flows compiled from the last 60 years. Climate change and resulting river flow change is certain and one can only imagine how rare it will be for the historic average to actually occur.

We have the technology today to better understand what is happening, in real time, in every river basin in this state. Satellites and unmanned aircraft using infrared and ground sensing radar, together with terrestrial stations collecting soil conditions, snow temperature and moisture content coupled with telemetry will soon be deployed in the American River basin. Collecting this data and using it in real time to predict river flows allows for better operation of the dams so that additional flood storage capacity could be available by lowering the reservoir ahead of the storm or keeping water in the reservoir if a major storm is heading for a different river basin or if it is a cold snow storm. Using the best science can simultaneously deliver increased flood protection and greater water storage.

### *PROTECT WATER RIGHTS*

Soon after gold was discovered in California, the miners discovered that water could be used to separate gold from gravel and soon after, the right to the water flowing in the rivers became as valuable as the gold. Today, water is California's gold. The classic water war in California is usually about one group attempting to take another group's water. It is reasonable to view the current BDCP conflict in this way: southern exporters taking water belonging to northern water right holders and water necessary for the aquatic river environment. Any water plan that ignores the prior and existing water rights is destined to be embroiled in a vicious and contracted water war. If a project is to be built, then existing rights must be honored.

### *CONCLUSION*

California must develop a comprehensive water program. The current Bay Delta Conservation Plan is an outdated and destructive plumbing system. It does not create any new water. It does not provide the water and the ecological protection the Golden State must have. California and

the federal government must set aside the big, expensive, destructive plumbing plan and immediately move forward with a comprehensive program that includes:

- 1) Conservation,
- 2) Recycling,
- 3) The creation of new storage systems,
- 4) Fix the Delta - right sized conveyance, levee improvements, and habitat restoration,
- 5) Science driven process,
- 6) Protection of existing water rights

California is once again embroiled in a water war. The Bay Delta Conservation Plan is not a comprehensive plan; it is a plumbing system that seeks to extract water from one part of the state and deliver it to another part. If history is any indication, water wars are expensive and fruitless. Only by embracing a comprehensive plan that creates new water for the entire state can we avoid gridlock and a water war. This paper presents a plan that emphasizes using the best available science and a portfolio of water projects to create a positive solution to the water challenge facing California. It's time to move forward and ensure a reliable water supply for the entire state.

<sup>1</sup> California, Department of Water Resources and Natural Resources Agency, *The Bay Delta Conservation Plan Draft Chapters*, March 2013 <http://baydeltaconservationplan.com/Library/DocumentsLandingPage/BDCPDDocuments.aspx>.

<sup>2</sup> California, Department of Water Resources, *California Water Plan Update 2009, Integrated Water Management Bulletin 160-09*, 2009 < <http://www.waterplan.water.ca.gov/cwpu2009/index.cfm> >.

<sup>3</sup> PureSense: Real Time Irrigation Management, *New Technologies to Enhance Agricultural Water Management*, March 2013 <<http://www.puresense.com/>>.

<sup>4</sup> California, State Water Resources Control Board, *20X2020 Agency Team Questions and Answers*, 2 June 2008, <[http://www.swrcb.ca.gov/water\\_issues/hot\\_topics/20x2020/docs/questions\\_answers.pdf](http://www.swrcb.ca.gov/water_issues/hot_topics/20x2020/docs/questions_answers.pdf)>.

<sup>5</sup> WaterReuse Research, *Meeting California's Water Needs and Goals through an Unprecedented Initiative: Advancing Direct Potable Reuse*, Capitol Hill briefing materials, March 2013.

California, Department of Water Resources, *California Water Plan Update 2009, Integrated Water Management Bulletin 160-09*, Vol. 2, Chapter 11, 2009 < <http://www.waterplan.water.ca.gov/cwpu2009/index.cfm> >.

<sup>6</sup> WaterReuse Research, *Meeting California's Water Needs and Goals through an Unprecedented Initiative: Advancing Direct Potable Reuse*, Capitol Hill briefing materials, March 2013.

<sup>7</sup> Sites Project Joint Powers Authority, *North-of-the-Delta Off Stream Storage Fact Sheet*, [www.sitesjpa.net](http://www.sitesjpa.net).

**From:** Jason Peltier  
**Sent:** Friday, March 29, 2013 11:22 AM  
**To:** Joe Findaro; David Bernhardt  
**Subject:** he grew up in the Sacramento valley

<http://thehill.com/blogs/ballot-box/house-races/290993-democrats-seek-to-tie-house-republicans-to-don-youngs-wetbacks-comment>



**From:** Jason Peltier  
**Sent:** Friday, March 29, 2013 12:49 PM  
**To:** 'Karen Clark'  
**Subject:** RE: March 29, 7:30 a.m. PST Conference Call

Who is Cheryl Faunce?

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Thursday, March 28, 2013 5:17 PM  
**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erick Mullen; Fowler West; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; MargaretAnn Co  
**Subject:** March 29, 7:30 a.m. PST Conference Call  
**Importance:** High

All,

This is a reminder that we will have a 7:30 a.m. PST conference call tomorrow, March 29.

Tom has asked that a few others join the call tomorrow (listed on the email distribution), however, I'll list everyone for your convenience.

Carolyn Jensen, KP Public Affairs  
Catherine Karen, Sidley Austin  
David Bernhardt, Brownstein, Hyatt, Farber & Shreck  
Dennis Cardoza, Manatt, Phelps  
Denny Rehberg, Mercury/Clark & Weinstock  
Doug Subers, KP Public Affairs  
Ed Manning, KP Public Affairs  
Erick Mullen, Mercury/Clark & Weinstock  
Fowler West, Mercury/Clark & Weinstock  
Gayle Holman, Westlands Water District  
Tom Birmingham, Westlands Water District  
Jason Peltier, Westlands Water District  
Joe Findaro, Akerman  
Mike Burns, KP Public Affairs  
Susan Ramos, Westlands Water District  
Tony Coelho  
Karen Clark, Westlands Water District

If you have any questions, feel free to contact me.

Sincerely,

~Karen

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Karen Clark  
**Sent:** Friday, March 29, 2013 12:57 PM  
**To:** Jason Peltier  
**Subject:** Re: March 29, 7:30 a.m. PST Conference Call

The executive assistant for Denny Rehberg.

*Sent from my Verizon Wireless 4G LTE DROID*

Jason Peltier <jpeltier@westlandswater.org> wrote:

Who is Cheryl Faunce?

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Thursday, March 28, 2013 5:17 PM  
**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erick Mullen; Fowler West; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; MargaretAnn Co  
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Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Jason Peltier  
**Sent:** Friday, March 29, 2013 12:58 PM  
**To:** 'Karen Clark'  
**Subject:** RE: March 29, 7:30 a.m. PST Conference Call

Thanks. will let her know I added Denny to my dist. list.

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Friday, March 29, 2013 12:57 PM  
**To:** Jason Peltier  
**Subject:** Re: March 29, 7:30 a.m. PST Conference Call

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*Sent from my Verizon Wireless 4G LTE DROID*

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Tom Birmingham, Westlands Water District  
Jason Peltier, Westlands Water District  
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Mike Burns, KP Public Affairs  
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Tony Coelho  
Karen Clark, Westlands Water District

If you have any questions, feel free to contact me.

Sincerely,

*~Karen*

Karen Clark

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(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** David Bernhardt  
**Sent:** Tuesday, April 2, 2013 6:02 AM  
**To:** Jason Peltier  
**Subject:** Contact  
**Attachments:** Chris Marklund.vcf; Untitled attachment 33912.txt

Please add Chris to you Bcc list of all things water and BDCP. He is Valadao's water staffer.

Thx

BEGIN:VCARD  
VERSION:3.0  
PRODID:-//Apple Inc.//iOS 5.1.1//EN  
N:Marklund;Chris;;;  
FN:Chris Marklund  
item1.EMAIL;type=INTERNET;type=pref:Chris.Marklund@mail.house.gov  
END:VCARD



David Bernhardt  
202-■■■■-■■■■ (cell)

**From:** Jason Peltier  
**Sent:** Tuesday, April 2, 2013 8:44 AM  
**To:** 'David Bernhardt'  
**Subject:** RE: Contact

Will do.

Difficult call this am, tho you were a rock, thanks.

-----Original Message-----

From: David Bernhardt [[mailto: \[REDACTED\]](#)]

Sent: Tuesday, April 02, 2013 6:02 AM

To: Jason Peltier

Subject: Contact

Please add Chris to you Bcc list of all things water and BDCP. He is Valadao's water staffer.

Thx

**From:** Tom Birmingham

**Sent:** Tuesday, April 2, 2013 8:50 AM

**To:** vweber@mercuryllc.com; 'Tony Coelho'; 'Bernhardt, David L.'; joe.findaro@akerman.com

**Subject:** Conference Call with David Valadao

Gentlemen,

I spoke to David Valadao and then to his chief of staff, Tal Eslick, about a conference call later today. Tal said Mr. Valadao's scheduler would contact me about a time for the call. As soon as I hear from the scheduler, I will let you know.

Tom

**From:** Tom Birmingham

**Sent:** Tuesday, April 2, 2013 9:17 AM

**To:** 'Bernhardt, David L.'; joe.findaro@akerman.com; 'Tony Coelho'; vin@cwdc.com

**CC:** 'Rojewski, Cole'

**Subject:** Conference Call with David Valadao

Gentlemen,

Our conference call with Mr. Valadao has been scheduled for 1:00 p.m. PDT (4:00 p.m. EDT) today. Please call (800) [REDACTED]  
[REDACTED] pass code [REDACTED]

Tom

**From:** Tony Coelho  
**Sent:** Tuesday, April 2, 2013 10:48 AM  
**To:** Tom Birmingham  
**CC:** Bernhardt, David L.; Joe Findaro; vin@cwdc.com; Rojewski, Cole  
**Subject:** Re: Conference Call with David Valadao

OK

Tony

On Apr 2, 2013, at 12:16 PM, Tom Birmingham <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)> wrote:

Gentlemen,

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Tom

**From:** Jason Peltier  
**Sent:** Tuesday, April 2, 2013 10:49 AM  
**To:** 'Middleton, Brandon (EPW)'; Joe Findaro; David Bernhardt; Cathrine Karen  
**CC:** Craig Manson  
**Subject:** RE: New contact information

Brandon, meet Joe, David and Catherine they do work for us in DC.

Guys, Brandon did good work for all of us on Delta ESA litigation while he was with PLF. He is a rare person in DC, a guy with firsthand knowledge of the mess of the Delta.

---

**From:** Middleton, Brandon (EPW) [mailto:Brandon\_Middleton@epw.senate.gov]  
**Sent:** Monday, April 01, 2013 4:37 PM  
**To:** Middleton, Brandon (EPW)  
**Subject:** New contact information

Dear Friends,

I recently joined the Republican staff on the U.S. Senate Committee on Environment and Public Works and now serve as the Committee's Clean Water Act counsel. I enjoyed my (much too brief) time at Harrison Temblador in Sacramento after five great years at Pacific Legal Foundation, but am looking forward to this new opportunity in Washington.

Please find my new contact information below and let me know if you're ever in town for a visit.

Regards,

Brandon Middleton

Brandon M. Middleton  
Senior Clean Water Act Counsel  
Committee on Public Works and the Environment  
United States Senate  
[Brandon\\_Middleton@epw.senate.gov](mailto:Brandon_Middleton@epw.senate.gov)  
202.224.6176

**From:** joe.findaro@akerman.com  
**Sent:** Tuesday, April 2, 2013 10:52 AM  
**To:** jpeltier@westlandswater.org; Brandon\_Middleton@epw.senate.gov; dbernhardt@bhfs.com; ckaren@Sidley.com  
**CC:** cmanson@westlandswater.org  
**Subject:** RE: New contact information

thanks. Brandon, look forward to meeting you.

[V Card](#) | [Bio](#) | [akerman.com](#)



CONFIDENTIALITY NOTE: The information contained in this transmission may be privileged and confidential, and is intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this transmission in error, please immediately reply to the sender that you have received this communication in error and then delete it. Thank you.

CIRCULAR 230 NOTICE: To comply with U.S. Treasury Department and IRS regulations, we are required to advise you that, unless expressly stated otherwise, any U.S. federal tax advice contained in this transmittal, is not intended or written to be used, and cannot be used, by any person for the purpose of (i) avoiding penalties under the U.S. Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any transaction or matter addressed in this e-mail or attachment.

---

**From:** Jason Peltier [mailto:jpeltier@westlandswater.org]  
**Sent:** Tuesday, April 02, 2013 1:49 PM  
**To:** 'Middleton, Brandon (EPW)'; Findaro, Joe (OC-DC); David Bernhardt; Cathrine Karen  
**Cc:** Craig Manson  
**Subject:** RE: New contact information

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Guys, Brandon did good work for all of us on Delta ESA litigation while he was with PLF. He is a rare person in DC, a guy with firsthand knowledge of the mess of the Delta.

---

**From:** Middleton, Brandon (EPW) [mailto:Brandon\_Middleton@epw.senate.gov]  
**Sent:** Monday, April 01, 2013 4:37 PM  
**To:** Middleton, Brandon (EPW)  
**Subject:** New contact information

Dear Friends,

I recently joined the Republican staff on the U.S. Senate Committee on Environment and Public Works and now serve as the Committee's Clean Water Act counsel. I enjoyed my (much too brief) time at Harrison Temblador in Sacramento after five great years at Pacific Legal Foundation, but am looking forward to this new opportunity in Washington.

Please find my new contact information below and let me know if you're ever in town for a visit.

Regards,

Brandon Middleton

Brandon M. Middleton  
Senior Clean Water Act Counsel  
Committee on Public Works and the Environment  
United States Senate  
[Brandon\\_Middleton@epw.senate.gov](mailto:Brandon_Middleton@epw.senate.gov)  
202.224.6176



**From:** Middleton, Brandon (EPW)

**Sent:** Tuesday, April 2, 2013 11:02 AM

**To:** joe.findaro@akerman.com; jpeltier@westlandswater.org; dbernhardt@bhfs.com; ckaren@Sidley.com

**CC:** cmanson@westlandswater.org

**Subject:** RE: New contact information

Thanks Jason for the kind introduction. I'm looking forward to meeting everyone in the near future.

Brandon

---

**From:** joe.findaro@akerman.com [mailto:joe.findaro@akerman.com]

**Sent:** Tuesday, April 02, 2013 1:52 PM

**To:** jpeltier@westlandswater.org; Middleton, Brandon (EPW); dbernhardt@bhfs.com; ckaren@Sidley.com

**Cc:** cmanson@westlandswater.org

**Subject:** RE: New contact information

thanks. Brandon, look forward to meeting you.

[V Card](#) | [Bio](#) | [akerman.com](#)



CONFIDENTIALITY NOTE: The information contained in this transmission may be privileged and confidential, and is intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this transmission in error, please immediately reply to the sender that you have received this communication in error and then delete it. Thank you.

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---

**From:** Jason Peltier [mailto:jpeltier@westlandswater.org]

**Sent:** Tuesday, April 02, 2013 1:49 PM

**To:** 'Middleton, Brandon (EPW)'; Findaro, Joe (OC-DC); David Bernhardt; Cathrine Karen

**Cc:** Craig Manson

**Subject:** RE: New contact information

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United States Senate  
[Brandon\\_Middleton@epw.senate.gov](mailto:Brandon_Middleton@epw.senate.gov)  
202.224.6176

**From:** Bernhardt, David L.  
**Sent:** Tuesday, April 2, 2013 11:03 AM  
**To:** 'Jason Peltier'; 'Middleton, Brandon (EPW)'; Joe Findaro; Cathrine Karen  
**CC:** Craig Manson  
**Subject:** RE: New contact information

Brandon: Nice to meet you. You are going to really enjoy your new gig!

Best,  
David

---

**From:** Jason Peltier [mailto:jpeltier@westlandswater.org]  
**Sent:** Tuesday, April 02, 2013 1:49 PM  
**To:** 'Middleton, Brandon (EPW)'; Joe Findaro; Bernhardt, David L.; Cathrine Karen  
**Cc:** Craig Manson  
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[Brandon\\_Middleton@epw.senate.gov](mailto:Brandon_Middleton@epw.senate.gov)  
202.224.6176

**From:** Karen, Catherine  
**Sent:** Tuesday, April 2, 2013 11:53 AM  
**To:** Middleton, Brandon (EPW); joe.findaro@akerman.com; jpeltier@westlandswater.org; dbernhardt@bhfs.com  
**CC:** cmanson@westlandswater.org  
**Subject:** RE: New contact information

Hi Brandon,  
Margaret had mentioned that you were on your way. We have been helping Laura a little bit. Welcome and we look forward to working with you.  
Catherine

Catherine Karen  
Sidley Austin LLP  
1501 K Street, NW  
Washington, DC 20005  
Tel: 202-736-8368  
Cell: 703-████-████  
Fax: 202-736-8711  
[ckaren@sidley.com](mailto:ckaren@sidley.com)

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\*\*\*\*\*

This e-mail is sent by a law firm and may contain information that is privileged or confidential. If you are not the intended recipient, please delete the e-mail and any attachments and notify us immediately.

\*\*\*\*\*  
\*\*\*\*\*

**From:** Jason Peltier  
**Sent:** Wednesday, April 10, 2013 2:55 PM  
**To:** Joe Findaro; David Bernhardt; Dan Keppen  
**Subject:** NWRA

I understand when the NWRA Board meets next week that Tim Quinn and the head of the Texas delegation are going to try to get Donnelly fired. Been brewing for some time I take it....

**From:** Dan Keppen  
**Sent:** Wednesday, April 10, 2013 3:22 PM  
**To:** 'Jason Peltier'; 'Joe Findaro'; 'David Bernhardt'  
**Subject:** RE: NWRA

I've heard that changes were in the works, but did not know this was what was driving things....

---

**From:** Jason Peltier [mailto:jpeltier@westlandswater.org]  
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**From:** Jason Peltier  
**Sent:** Wednesday, April 10, 2013 3:36 PM  
**To:** 'Dan Keppen'; 'Joe Findaro'; 'David Bernhardt'  
**Subject:** RE: NWRA

One story I heard that Tom was told not to hire his son. He did anyway and concealed the source of the money in the budget or some such.

---

**From:** Dan Keppen [mailto:dankeppen@charter.net]  
**Sent:** Wednesday, April 10, 2013 3:22 PM  
**To:** 'Jason Peltier'; 'Joe Findaro'; 'David Bernhardt'  
**Subject:** RE: NWRA

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**Subject:** NWRA

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**From:** Bernhardt, David L.  
**Sent:** Wednesday, April 10, 2013 3:42 PM  
**To:** 'Jason Peltier'  
**Subject:** RE: NWRA

Yikes! That is a bad story.

---

**From:** Jason Peltier [<mailto:jpeltier@westlandswater.org>]  
**Sent:** Wednesday, April 10, 2013 6:36 PM  
**To:** 'Dan Keppen'; 'Joe Findaro'; Bernhardt, David L.  
**Subject:** RE: NWRA

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**From:** Dan Keppen [<mailto:dankeppen@charter.net>]  
**Sent:** Wednesday, April 10, 2013 3:22 PM  
**To:** 'Jason Peltier'; 'Joe Findaro'; 'David Bernhardt'  
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**From:** Jason Peltier  
**Sent:** Wednesday, April 10, 2013 3:46 PM  
**To:** 'Bernhardt, David L.'  
**Subject:** RE: NWRA

Also the prospect is that if the old boys protect him, CA and TX pull out and take their \$200 K with them.

---

**From:** Bernhardt, David L. [mailto:DBernhardt@BHFS.com]  
**Sent:** Wednesday, April 10, 2013 3:42 PM  
**To:** 'Jason Peltier'  
**Subject:** RE: NWRA

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**To:** 'Dan Keppen'; 'Joe Findaro'; Bernhardt, David L.  
**Subject:** RE: NWRA

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**From:** Dan Keppen [mailto:[dankeppen@charter.net](mailto:dankeppen@charter.net)]  
**Sent:** Wednesday, April 10, 2013 3:22 PM  
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**Subject:** RE: NWRA

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**From:** Dan Keppen  
**Sent:** Wednesday, April 10, 2013 3:48 PM  
**To:** 'Jason Peltier'; 'Joe Findaro'; 'David Bernhardt'  
**Subject:** RE: NWRA

Wow. I've heard that they've been thinking for some time about finding a path to move Tom towards retirement, rather than outright termination.

---

**From:** Jason Peltier [<mailto:jpeltier@westlandswater.org>]  
**Sent:** Wednesday, April 10, 2013 3:36 PM  
**To:** 'Dan Keppen'; 'Joe Findaro'; 'David Bernhardt'  
**Subject:** RE: NWRA

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**Subject:** NWRA

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**From:** Karen Clark  
**Sent:** Friday, April 12, 2013 9:49 AM  
**To:** Bernhardt, David L.  
**CC:** Karen Clark  
**Subject:** Conference Call Next Week

Hi David,

I had some background noise this morning while on today's conference call this morning and did not hear the details of the call Tom wanted to participate in with you next week. Could you fill me in on the details?

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Bernhardt, David L.  
**Sent:** Monday, April 15, 2013 7:45 AM  
**To:** 'Karen Clark'  
**Subject:** RE: Conference Call Next Week

Thanks Karen. The call will be on Wend. It will be regarding coordinating activities amongst legislative consultants. The participants will be his DC reps. The time will be 2 pm. EST to 5 pm. EST. If Tom is going to call in, the call in number would be [REDACTED], code [REDACTED].

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Friday, April 12, 2013 12:49 PM  
**To:** Bernhardt, David L.  
**Cc:** Karen Clark  
**Subject:** Conference Call Next Week

Hi David,

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(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Karen Clark  
**Sent:** Monday, April 15, 2013 11:08 AM  
**To:** 'Bernhardt, David L.'  
**Subject:** RE: Conference Call Next Week

Thanks very much, David.

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
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Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Tom Birmingham  
**Sent:** Tuesday, April 16, 2013 8:40 PM  
**To:** 'Bernhardt, David L.'  
**CC:** 'Marklund, Chris'  
**Subject:** FW: Delta Approps Language  
**Attachments:** Westlands - Delta Pump Operation.docx

**Importance:** High

David,

I have made changes to the letter drafted by Chris. Please review these changes and forward the document to Chris with any additional suggestions to Chris by close of business Wednesday.

Thank you,  
Tom

---

**From:** Marklund, Chris [mailto:Chris.Marklund@mail.house.gov]  
**Sent:** Monday, April 15, 2013 5:01 PM  
**To:** 'Tom Birmingham'; 'dbernhardt@bhfs.com'  
**Subject:** Delta Approps Language  
**Importance:** High

Tom and David,

Attached please find a draft of the request letter we will be transmitting to the Energy and Water subcommittee in support of our delta language. I took a stab at the justification. Unfortunately, I have 11 more bills worth of these letters to write and "miles to go before I sleep." I was hoping one of you would be able to assist me in beefing up the letter a bit in terms of the need and impact of the language.

Because of pending deadlines, I will need to receive your edits by close of business Wednesday so I can ensure the language is submitted to the committee on time.

Thank you in advance for your help.

Best regards,

Chris

--

Chris Marklund  
Legislative Director  
Rep. David Valadao  
1004 Longworth House Office Building  
Washington, DC 20024  
Ph: 202-225-4695  
Fax: 202-225-3196  
[Chris.Marklund@mail.house.gov](mailto:Chris.Marklund@mail.house.gov)



April 19, 2013

The Honorable Rodney P. Frelinghuysen  
Chairman  
House Committee on Appropriations,  
Subcommittee on Energy and Water  
Development, and Related Agencies  
U.S. House of Representatives  
Washington, DC 20515

The Honorable Marcy Kaptur  
Ranking Member  
House Committee on Appropriations,  
Subcommittee on Energy and Water Development,  
and Related Agencies  
U.S. House of Representatives  
Washington, DC 20515

Dear Chairman Frelinghuysen and Ranking Member Kaptur:

As you begin work on the Fiscal Year 2014 Energy and Water Development, and Related Agencies Appropriations Act, I urge you to include the following language:

SEC. XXX. Until acceptance by the Bureau of Reclamation of the new biological opinions resulting from the consultations after remand in the Consolidated Delta Smelt Cases, 1:09-CV-00407 OWW (E.D. Cal.) and the Consolidated Salmonid Cases, 1:09-CV-01053 OWW (E.D. Cal.), all requirements of the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.) shall be considered to be fully met for the protection and conservation of the species affected by operations of the Central Valley Project and the California State Water Project; provided, that the Central Valley Project and the California State Water Project are operated in accordance with the October 22, 2004, Biological Opinion on the Long-Term Central Valley Project and State Water Project Operations Criteria and Plan, issued by the National Marine Fisheries Service, and the February 15, 2005, Biological Opinion addressing Reinitiation of Formal and Early Section 7 Endangered Species Consultation on the Coordinated Operations of the Central Valley Project and State Water Project and the Operations Criteria and Plan to Address Potential Critical Habitat Issues, issued by the Fish and Wildlife Service; and, provided further, that for each water year, during the period beginning on December 1 and ending on June 30, the Central Valley Project and the California State Water Project shall be operated to maintain reverse flow in Old and Middle Rivers to a 14-day average of the mean daily reverse flow not more negative than -6,000 cubic feet per second.

Operations of the federal Central Valley Project and the California State Water Project have been severely impacted by restrictions imposed by a 2008 biological opinion issued by the Fish and Wildlife Service and a 2009 biological opinions issued by the National Marine Fisheries Service. Both of these biological opinions, which were accepted by the Bureau of Reclamation, were held to be unlawful by the United States District Court for the Eastern District of California, and the biological opinions were remanded by the District Court to the fishery agencies. However, to maintain take authority for the listed species, the District Court did not vacate the biological opinions, and the two major water projects in California are still being operated pursuant to “reasonable and prudent alternatives” found by the District Court to be arbitrary, capricious, and otherwise unlawful for both scientific and procedural deficiencies.

The Central Valley Project and the State Water Project supply water to more than 25 million Californians and more than 3 million acres of highly productive farmland. As a direct result of the flawed biological opinions, in this current water year more than 800,000 acre-feet of water has been lost by the projects, and as a consequence, the allocation of water for south-of-Delta farmers served Central Valley Project water service contractors is down to only 20%. In my congressional district alone, it is projected that these water supply reductions will eliminate more than 8,000 on-farm and farm related jobs and will cause a regional economic loss of more than \$1 billion. These losses do not include losses in other farming areas served by the Central Valley Project and the State Water Project. Nor do they include economic losses in urban areas served by these two water projects.

The language I am requesting provides relief to Central Valley farmers and families by allowing the Central Valley Project and the State Water Projects to be operated under prior biological opinions until the Bureau of Reclamation accepts both of the biological opinions issued in response to the District Court remand. This language provides additional protection to listed species by providing that operations of the projects' pumping plants in the Sacramento-San Joaquin Rivers Delta not cause reverse flow in Old and Middle Rivers more negative than -6,000 cubic feet per second during the period from December 1 through the following June 30.

I urge you to support this language and thank you for your consideration of my request.

Sincerely,

David G. Valadao  
Member of Congress

**From:** Bernhardt, David L.  
**Sent:** Wednesday, April 17, 2013 3:54 AM  
**To:** 'Tom Birmingham'  
**CC:** 'Marklund, Chris'  
**Subject:** RE: Delta Approps Language

Thanks Tom. The changes you provided are helpful.

---

**From:** Tom Birmingham [mailto:[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)]  
**Sent:** Tuesday, April 16, 2013 11:40 PM  
**To:** Bernhardt, David L.  
**Cc:** 'Marklund, Chris'  
**Subject:** FW: Delta Approps Language  
**Importance:** High

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Washington, DC 20024  
Ph: 202-225-4695

Fax: 202-225-3196

[Chris.Marklund@mail.house.gov](mailto:Chris.Marklund@mail.house.gov)

**From:** Marklund, Chris  
**Sent:** Wednesday, April 17, 2013 6:04 AM  
**To:** 'Tom Birmingham'; 'Bernhardt, David L.'  
**Subject:** RE: Delta Approps Language

A much better letter now. Thank you guys for your assistance.

Chris

--

Chris Marklund  
Legislative Director  
Rep. David Valadao  
1004 Longworth House Office Building  
Washington, DC 20024  
Ph: 202-225-4695  
Fax: 202-225-3196  
[Chris.Marklund@mail.house.gov](mailto:Chris.Marklund@mail.house.gov)

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**From:** Tom Birmingham [mailto:[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)]  
**Sent:** Tuesday, April 16, 2013 11:40 PM  
**To:** 'Bernhardt, David L.'  
**Cc:** Marklund, Chris  
**Subject:** FW: Delta Approps Language  
**Importance:** High

David,

I have made changes to the letter drafted by Chris. Please review these changes and forward the document to Chris with any additional suggestions to Chris by close of business Wednesday.

Thank you,  
Tom

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**From:** Marklund, Chris [mailto:[Chris.Marklund@mail.house.gov](mailto:Chris.Marklund@mail.house.gov)]  
**Sent:** Monday, April 15, 2013 5:01 PM  
**To:** 'Tom Birmingham'; 'dbernhardt@bhfs.com'  
**Subject:** Delta Approps Language  
**Importance:** High

Tom and David,

Attached please find a draft of the request letter we will be transmitting to the Energy and Water subcommittee in support of our delta language. I took a stab at the justification. Unfortunately, I have 11 more bills worth of these letters to write and "miles to go before I sleep." I was hoping one of you would be able to assist me in beefing up the letter a bit in terms of the need and impact of the language.

Because of pending deadlines, I will need to receive your edits by close of business Wednesday so I can ensure the language is submitted to the committee on time.

Thank you in advance for your help.

Best regards,

Chris

--

Chris Marklund

Legislative Director

Rep. David Valadao

1004 Longworth House Office Building

Washington, DC 20024

Ph: 202-225-4695

Fax: 202-225-3196

[Chris.Marklund@mail.house.gov](mailto:Chris.Marklund@mail.house.gov)

**From:** Craig Manson  
**Sent:** Monday, April 22, 2013 4:53 PM  
**To:** 'Rose Schlueter'  
**Subject:** List of email addresses

Larry Treece [ltreece@bhfs.com](mailto:ltreece@bhfs.com)

Mark Mathews [mmathews@bhfs.com](mailto:mmathews@bhfs.com)

David Bernhardt [dbernhardt@bhfs.com](mailto:dbernhardt@bhfs.com)

r

Paul J. Zidlicky - Sidley Austin [pzidlicky@sidley.com](mailto:pzidlicky@sidley.com)

Peter D. Keisler - Sidley Austin [pkeisler@sidley.com](mailto:pkeisler@sidley.com)

Erika L. Myers - Sidley Austin [erika.myers@sidley.com](mailto:erika.myers@sidley.com)

Roger R. Martella, Jr. - Sidley Austin [rmartella@sidley.com](mailto:rmartella@sidley.com)

**From:** Jason Peltier

**Sent:** Tuesday, April 30, 2013 8:50 AM

**To:** 'Karen Clark'; 'Tony Coelho'; 'Carmela McHenry'; 'Carolyn Jensen'; 'David Bernhardt'; 'Doug Subers'; 'Ed Manning'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'Mike Burns'; 'Susan Ramos'

**Subject:** Deputy Secretary David J. Hayes to Conclude Successful Tenure at Interior Department

## Deputy Secretary David J. Hayes to Conclude Successful Tenure at Interior Department

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### **Jewell praises Hayes for his leadership, dedication to public service**

**04/30/2013**

Contact: Blake Androff, 202-208-6416

**WASHINGTON, D.C.** – David J. Hayes will conclude his role as Deputy Secretary at the Department of the Interior this year after serving in the position for the Obama Administration for more than four years. Hayes will serve as a Senior Fellow at the Hewlett Foundation and will teach at Stanford Law School in the fall. Hayes expects to leave Interior at the end of June.

"David has been a key architect for nearly every significant initiative undertaken at Interior over the last four years," said Secretary of the Interior Sally Jewell. "From his work on expanding renewable energy production on public lands and waters, to coordinating federal family energy activities in Alaska, to developing a landscape-scale approach to conservation and climate change, David has left an indelible mark. I am grateful for his wisdom and guidance to me throughout this transition and I wish him the best as he heads out to California for this next chapter."

As Deputy, Hayes has been a key leader in implementing President Obama's priorities, including: promoting conservation initiatives such as the America's Great Outdoors agenda; encouraging thoughtful renewable energy development on public lands and offshore resources through initiatives like the Western Solar Plan and the "Smart from the Start" offshore wind strategy; implementing unprecedented oil and gas safety reforms after Deepwater Horizon and forward-thinking changes to onshore oil and gas leasing; fulfilling the nation's trust responsibilities to American Indians and Alaskan Natives, including unprecedented water rights and legal settlements in Indian Country; managing the nation's water supplies sustainably, including improvements to California's water infrastructure; and implementing Interior's scientific integrity policy.

"It's been an honor and a privilege to serve in President Obama's Administration and to work on some of the most important and challenging issues of our time," said Hayes. "It was a difficult decision to leave the Department, but I'm looking forward to heading out West to return to Stanford and to partner with the Hewlett Foundation where I will continue to develop progressive solutions to our nation's environmental and natural resources challenges."



Hayes was confirmed as Deputy Secretary in May 2009 by unanimous vote of the United States Senate.

In July 2011, the President appointed Hayes as Chair of the Interagency Working Group on Coordination of Domestic Energy Development and Permitting in Alaska, which works to organize the efforts of Federal agencies that oversee the safe and responsible development of onshore and offshore, renewable and conventional energy in Alaska. This month, Hayes released a report to the President on Arctic, [\*Managing for the Future in a Rapidly Changing Arctic\*](#), recommending that the United States develop an innovative, government-wide "Integrated Arctic Management" strategy for the rapidly changing Arctic.

Hayes played an instrumental role in settling the long-standing Cobell Indian trust litigation and overseeing implementation of the settlement, ending 14 years of litigation regarding the Interior Department's management of trust resources for more than 500,000 American Indians and Alaska Natives.

Hayes also headed up the Interior Department's response to the Deepwater Horizon oil spill for the Secretary, managing day-to-day operational issues and helping to implement the significant oil and gas safety and reform agenda. Since 2009, he has served as co-chair of the Secretary's Energy and Climate Change Task Force, guiding Interior's energy programs and its climate change adaptation activities.

Hayes previously served as the Deputy Secretary and counselor to the Secretary of the Interior in the Clinton Administration. He worked for many years in the private sector where he chaired the Environment, Land and Resources Department at Latham and Watkins, an international law firm.

Hayes is a former chairman of the Board of the Environmental Law Institute; he was a consulting professor at Stanford University's Woods Institute for the Environment; he served as a Senior Fellow for the World Wildlife Fund, and was the Vice-Chair of the Board of American Rivers. Hayes has written and lectured widely in the environmental and natural resources field.

Hayes is a native of Rochester, New York. He graduated summa cum laude from the University of Notre Dame and received his J.D. from Stanford University, where he was an editor of the Stanford Law Review. He is the former Chairman of the Board of Visitors for Stanford Law School.

Hayes and his wife Elizabeth reside in Arlington, Virginia and he has three children, Katherine, Stephen and Molly.

**From:** Jason Peltier

**Sent:** Monday, May 6, 2013 9:58 AM

**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'David Bernhardt'; 'Doug Subers'; 'Ed Manning'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'; Denny Rehberg; Dennis Cardoza

**Subject:** FW: PPIC Report: "Stress Relief: Prescriptions for a Healthier Delta"

FYI

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**From:** Greg Zlotnick [mailto:[greg.zlotnick@sldmwa.org](mailto:greg.zlotnick@sldmwa.org)]

**Sent:** Sunday, May 05, 2013 8:14 PM

**To:** Ara Azhderian; [jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org); Jon Rubin; [cmanson@westlandswater.org](mailto:cmanson@westlandswater.org); Sheila Greene; 'BJ Miller'

**Cc:** Dan Nelson; Greg Zlotnick

**Subject:** PPIC Report: "Stress Relief: Prescriptions for a Healthier Delta"

Attached are (1) a one page high-level takeaway; (2) 3+ pages of excerpts; and, (3) a highlighted copy of the 24 page report if you want more detail or context.

Overall I think this is a generally positive report that reinforces our viewpoint on a number of fronts and echoes suggestions we've been making for awhile. There's still some overemphasis on exports at times but that's more a reflection of their survey data I suppose, which there's no way to know how inherently biased it was by the self-selection of respondents and not knowing how they defined "scientist" for purposes of the sample.

An unfortunate major flaw that is expressed a couple of times is the idea that BDCP is somehow unworthy because it's not addressing EVERYTHING and ALL stressors -- which, of course, is not what it was designed to do.

Z

Greg Zlotnick

Delta Initiatives and Special Projects

San Luis & Delta Mendota Water Authority

400 Capitol Mall, 27th Floor

Sacramento, CA 95814

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**From:** David Bernhardt  
**Sent:** Wednesday, May 8, 2013 3:48 AM  
**To:** Thomas W. (Tom) Birmingham Esq.  
**Subject:** Meeting

Tom: Did either Valadao's or Fienstein's office loop back with you after the Monday meeting?

David Bernhardt  
202-■■■■-■■■■ (cell)

**From:** Tom Birmingham  
**Sent:** Wednesday, May 8, 2013 7:31 AM  
**To:** David Bernhardt  
**Subject:** Re: Meeting

Yes. I will call later this morning.

Sent from my iPhone

On May 8, 2013, at 3:48 AM, "David Bernhardt" <[REDACTED]> wrote:

> Tom: Did either Valadao's or Fienstein's office loop back with you after the Monday meeting?  
>  
> David Bernhardt  
> 202-[REDACTED]-[REDACTED] (cell)

**From:** Tom Birmingham  
**Sent:** Thursday, May 16, 2013 9:19 PM  
**To:** 'Petersen, Scott'; 'LeMay, Ian'  
**CC:** 'Ed Manning'; 'Bernhardt, David L.'; 'Lopez, Juan'  
**Subject:** Telephone Conference with Mr. Costa

Scott and Ian,

I spoke with Mr. Costa this evening, and he reiterated his view that we need to focus on the development and implementation of a 12 – 18 month strategy to address both short-term and long-term issues. I suggested to Mr. Costa that Ed Manning and David Bernhardt could provide good insights from the Sacramento and Washington perspectives, respectively, and that they could help with the implementation of the strategy. Mr. Costa asked that I send this email requesting that we have a telephone conference on Monday afternoon, which would include Mr. Costa, Ed, David, you, and I, to discuss this approach.

Let me know if you have any questions or if I can help arrange the call.

Tom

**From:** Ed Manning  
**Sent:** Thursday, May 16, 2013 9:49 PM  
**To:** Tom Birmingham  
**CC:** Petersen, Scott; LeMay, Ian; Bernhardt, David L.; Lopez, Juan  
**Subject:** Re: Telephone Conference with Mr. Costa

Tom: I will be on a plane Monday returning from an East Coast wedding. We land around 3:30 p.s.t. If we could do it after 4 hat would work. Otherwise Tuesday would work. Thanks.

Sent from my iPhone

On May 16, 2013, at 9:19 PM, "Tom Birmingham" <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)> wrote:

Scott and Ian,

I spoke with Mr. Costa this evening, and he reiterated his view that we need to focus on the development and implementation of a 12 – 18 month strategy to address both short-term and long-term issues. I suggested to Mr. Costa that Ed Manning and David Bernhardt could provide good insights from the Sacramento and Washington perspectives, respectively, and that they could help with the implementation of the strategy. Mr. Costa asked that I send this email requesting that we have a telephone conference on Monday afternoon, which would include Mr. Costa, Ed, David, you, and I, to discuss this approach.

Let me know if you have any questions or if I can help arrange the call.

Tom

**From:** Bernhardt, David L.  
**Sent:** Thursday, May 16, 2013 11:52 PM  
**To:** Tom Birmingham  
**Subject:** Re: Telephone Conference with Mr. Costa

I can be available.

David Bernhardt  
[REDACTED]

**David Longly Bernhardt**

**Brownstein Hyatt**

**Farber Schreck, LLP**

1350 I Street, NW, Suite 510

Washington, DC 20005

202.872.5286 tel

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[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)

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On May 16, 2013, at 9:20 PM, "Tom Birmingham" <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)> wrote:

Scott and Ian,

I spoke with Mr. Costa this evening, and he reiterated his view that we need to focus on the development and implementation of a 12 – 18 month strategy to address both short-term and long-term issues. I suggested to Mr. Costa that Ed Manning and David Bernhardt could provide good insights from the Sacramento and Washington perspectives, respectively, and that they could help with the implementation of the strategy. Mr. Costa asked that I send this email requesting that we have a telephone conference on Monday afternoon, which would include Mr. Costa, Ed, David, you, and I, to discuss this approach.

Let me know if you have any questions or if I can help arrange the call.

Tom

**From:** Jason Peltier

**Sent:** Friday, May 17, 2013 2:21 PM

**To:** T Birmingham; Dan Nelson <Dan.Nelson@sldmwa.org>; Ara.azhderian@sldmwa.org; Dennis Cardoza; Joe Findaro; David Bernhardt

**Subject:** FW: Meeting with Secretary Jewell

**Attachments:** photo (4).JPG; FEDERAL ADMINISTRATIVE ISSUES Sec Jewell Final.pdf; Matrix of Administrative Processes and Initiatives.xls

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**From:** Dan Keppen [mailto:dankeppen@charter.net]

**Sent:** Friday, May 17, 2013 12:49 PM

**To:**

**Cc:** 'Gary Sawyers'; 'Mark Limbaugh'

**Subject:** Meeting with Secretary Jewell

Dear Alliance Directors and Advisory Committee Members:

Alliance President Pat O'Toole and Mark Limbaugh earlier today had a very productive meeting with new Interior Secretary Sally Jewell and Mike Connor, Commissioner of Reclamation. I talked to both Pat and Mark this morning, and it sounds like the meeting was excellent. "A ten out of ten," Pat told me.

I've attached the white paper and matrix of regulatory actions that was discussed earlier today with the Secretary. Please feel free to share.

I'll have more to report on this next week. In the meantime, check out the attached photo, taken on the patio overlooking the Mall outside the Secretary's office in Washington.

Have a great weekend –

Dan Keppen  
Executive Director



# **Overview of Completed and Pending Federal Administrative Processes and Initiatives That Impact Western Irrigated Agriculture**

By: Dan Keppen

Executive Director, Family Farm Alliance

May 14, 2013

## **OVERVIEW**

The Family Farm Alliance has long worked practically and constructively on finding ways to streamline the federal regulatory process, and has worked closely with current and past administrations and the Congress towards that end. In particular, recent rule-making efforts at the Environmental Protection Agency (EPA) and The White House Council on Environmental Quality (CEQ) carry a real risk of creating potential harm to Western irrigators. Further, federal agencies that our members have looked to as partners in the past – particularly the U.S. Army Corps of Engineers and those housed within the Departments of Agriculture and the Interior – appear to be have taken a secondary role in setting federal water policy to the EPA and CEQ in this Administration. Our members and others in the regulated community see the regulatory hammer being raised, while their proven, partnership-driven approaches to finding lasting solutions to vexing water problems appear to have been put on the back burner.

Western family farmers and ranchers are greatly concerned with the daunting number of administrative policy initiatives that they face. Many of these actions have been initiated in the past several years and we have yet to see if they have been successful in their intent, and more importantly, what their cumulative impact on Western irrigated agriculture will be. We by no means wish to convey a “sky is falling”, doom-and-gloom alarmist message with this paper. However, we believe many of these processes and actions can, individually or collectively, have very real negative impacts to Western irrigated agriculture. Others simply offer the potential for disruption and increased costs. The intent of this paper is to put the reader in the shoes of family farmers and ranchers as they view these daunting administrative initiatives. And, most importantly, it is our hope that leaders in the Administration seriously consider the cumulative effects of these measures before adding additional chapters to what our members already see as a very large rulebook.

This document summarizes key administrative regulatory and policy developments that we will continue to monitor and constructively engage on in 2013 and beyond.

## **ACTIONS DRIVEN BY WHITE HOUSE COUNCIL ON ENVIRONMENTAL QUALITY (CEQ)**

### **America’s Great Outdoors Initiative**

On April 16, 2010, President Obama signed a memorandum launching the America’s Great Outdoors Initiative, which focuses on promoting community-level efforts to conserve outdoor spaces. At that time, President Obama called upon the Departments of the Interior and Agriculture, EPA and CEQ to lead “a grassroots effort to build a conservation and recreation agenda for the 21<sup>st</sup> century”. Some conservation groups have used this forum to push the administration to boost land acquisition funding and to designate landscapes across the country as pilot projects where federal agencies would work with local communities

to "stitch together" parcels of wild land, forests and private lands. While this all sounds harmless enough on the surface, private property groups believe the initiative could lead to the decrease or curtailment of multiple-uses on managed lands. In light of recent actions on the parts of both Congress and the Administration toward private land acquisition and vast "treasured landscapes" designations, some believe this initiative has potential to be very damaging to the livestock industry. While federal acquisition of private lands will be stiffly challenged by many Western resource users, the Alliance has always sought opportunities to find ways to encourage federal agencies to work with the agricultural community to solve local water problems. This initiative may provide a useful forum to advocate for the promotion of policies that protect farm and ranch land and conservation values appurtenant to those lands.

In May of 2012, the Interior Department announced the new national Blueways System, a key element of America's Great Outdoors, and designated the Connecticut River Watershed as the nation's first blueway. Earlier this year, the White River (Arkansas) was added to the list. The National Blueways System was established to recognize rivers that are being protected and restored through diverse stakeholder partnerships that use a comprehensive watershed approach to resource stewardship. The designation recognizes the history, beauty of value of healthy rivers and provides an opportunity to build upon the conservation, recreational, and educational and economic benefits they provide to communities along them. The National Blueway designation differs from existing federal designations for rivers (e.g., Wild and Scenic), which generally cover only a segment of a river and a narrow band of the riparian corridor. A National Blueway, by contrast, includes the entire river from its "headwaters to mouth" as well as the river's watershed. National Blueways designations are intended to recognize and support existing local and regional conservation, recreation, and restoration efforts, and do not establish a new protective status or regulations.

This initiative, which many of our members see as very similar to the controversial National Heritage Rivers Initiative of the Clinton Administration, could provide a forum that can be misused or send the wrong message (such as the one recent blog comment on a Blueways website that advocated for the need to rid Washington state's Yakima Valley of dairies and feedlots to "protect" the watershed). This initiative has already drawn the attention of a recent House Water and Power Subcommittee oversight hearing.

### **Economic and Environmental P&G for Water and Related Resources Studies**

The Obama Administration in March 2013 released updated Principles and Guidelines (P&G) for federal investments in water resources, intended to accelerate project approvals, reduce costs, and support water infrastructure projects with the greatest economic and community benefits. The new P&G, which were developed by federal agencies with public comment, are intended to allow agencies to better consider the full range of long-term economic benefits associated with water investments, including protecting communities against future storm damage, promoting recreational opportunities that support local business, and supporting other local priorities, as well as their water delivery, navigation, and flood prevention functions. They emphasize the value of healthy ecosystems and they encourage nonstructural options, such as expanding wetlands to manage stormwater and flood runoff, rather than building levees and dams. The new updates to the P&G, called for in the 2007 Water Resources Development Act, were intended to help the Federal government reduce bureaucracy and make it quicker and easier to pursue projects that communities support.

The updated P&G consist of a final set of Principles and Requirements (P&R) that lays out broad principles to guide water investments, as well as draft Interagency Guidelines for implementing the P&R. Released for public review and comment in 2009, the P&R incorporate input from the public as well as the National Academy of Sciences. The P&R apply to all Federal agencies engaged in water resources planning and investment, including the Bureau of Reclamation (Reclamation), U.S. Army Corps of Engineers (Corps), EPA, Department of Agriculture, Department of the Interior, National Oceanic and Atmospheric Administration, Federal Emergency Management Agency, and Office of Management and Budget.

What those overarching principles will mean for individual projects and programs is up to the agencies. The draft guidelines instruct the agencies to develop their own procedures for implementing the principles within 180 days of when the guidelines are finalized. Meanwhile, Congress has blocked the Corps from implementing the changes this year. A provision slipped into the fiscal year 2012 omnibus appropriations package prohibits the Corps from spending money to implement the modified P&G.

CEQ in December 2009 released a draft of its new standards for federal water projects that for the first time put environmental goals on the same plane as economic development. At the time, the Alliance and others predicted that these proposed changes in the P&G for the Corps and Reclamation would have a significant impact on new water project planning and federal funding in the future, where existing water policies promote both the economy and the environment. In April 2010, the Alliance submitted detailed comments to CEQ's proposed draft P&G. At that time, the Alliance comments indicated that CEQ's draft proposal fell short of enacting the policy model envisioned by the Congress in WRDA 2007. In fact, the CEQ documents did not really establish a set of principles at all, but instead use the concepts of "principles," "guidelines," "procedures," and "standards" interchangeably. As a result, the draft was vague and it was difficult to see how it would be actually implemented. In our view, the intent of the provisions of WRDA 2007 was to provide a more balanced approach to water resource management decision making. Unfortunately, the draft CEQ document clearly elevated the non-structural and environmental elements over economic and human benefits and safety.

Western water and power users are concerned that yet another complex and subjective bureaucratic layer of process is being created. The Alliance's concerns expressed during the public comment period as these rules were being developed continue to remain. We believe the CEQ document clearly elevates the non-structural and environmental elements over economic and human benefits and public safety. The Alliance and others who work closely on federal water matters are concerned that the vague nature of the variables that will now need to be addressed in the water project planning process will increase delays and offer more opportunities for project critics to put up more road blocks that may not have merit. We have suggested to Reclamation leadership that water and power customer organizations be invited to help create Reclamation's agency-specific procedures. We believe that specific examples should be developed for the various types of Reclamation programs, plans and projects that could fall under the new procedures, showing how such proposals would be evaluated under the current criteria and the new criteria.

### **National Environmental Policy Act (NEPA) Draft Rules**

In February 2010, CEQ issued draft guidance that would require federal agencies to consider greenhouse

gas emissions and climate change when carrying out NEPA reviews. The Alliance and dozens of other industry and environmental organizations later that year submitted formal comments regarding CEQ's efforts to "modernize and reinvigorate" NEPA. CEQ believes these measures will assist federal agencies in meeting the goals of NEPA, enhance the quality of public involvement in governmental decisions relating to the environment, increase transparency and ease implementation. CEQ had developed draft guidance on the consideration of greenhouse gases, clarifying the appropriateness of "Findings of No Significant Impact" (FONSI) and specifying when there is a need to monitor environmental mitigation commitments, and clarifying the use of categorical exemptions (CEs). CEQ has also proposed improved public tools for reporting on NEPA activities. CEQ had been asked for guidance informally by federal agencies and formally in a petition filed in 2008 by three activist groups calling for CEQ to amend NEPA regulations to address climate change. Many believe the NEPA effort is driven by these same environmental groups who want to slow down or stop major projects solely on the basis of an assumption that they may accelerate global warming.

### Concerns with Administration Efforts to "Modernize and Reinvigorate" NEPA

The Alliance focused its comments on the proposed guidance on the use of CEs and FONSI, which are both important tools in operating and maintaining federal water projects in the West. A "categorical exclusion" describes a category of actions that do not typically result in individual or cumulative significant environmental effects or impacts. When appropriately established and applied, CEs serve a beneficial purpose. They allow Federal agencies to expedite the environmental review process for proposals that typically do not require more resource-intensive environmental documentation. A CE, for example, can potentially ease the Federal Energy Regulatory Commission permitting requirements for irrigators who want to install small hydroelectric projects in existing canals and ditches. These projects have minimal environmental impacts and offer over 50,000 opportunities in the U.S. to create new, clean, renewable sources of energy. Unfortunately, there are activist groups who use NEPA to delay and/or block efforts of some Western water users to perform these mostly routine (yet essential) actions.

Based on our review of the guidance, it appears CEQ would like to place more emphasis on monitoring and reporting requirements for NEPA-excluded activities and "frontloaded" environmental mitigation where FONSI or exclusions have traditionally been used. Western water managers often use these NEPA mechanisms in conjunction with annual operations and maintenance activities on ditches or major rehabilitation and repair projects on existing dams. As written, the CEQ directives would definitely impact Western water users by adding costs to traditionally less-expensive NEPA activities and analyses. And, there is a connection to the P&Rs in that CEQ wants NEPA to be implemented concurrent with the P&R analysis of a particular federally backed water project.

### NEPA and Climate Change

While Congress chose not to pass cap-and-trade legislation, the EPA reversed course from the previous administration and ruled that carbon-dioxide emissions endanger public health, opening the way for the agency to regulate the gas as a pollutant. Federal agencies for the first time now are considering a project's impact on global warming before approving the project, from pipelines to highways. The result could mean

significant delays for many new infrastructure projects, particularly those with an energy nexus. Some in Congress and others want to ensure that NEPA reviews do not consider the greenhouse gas emissions of a proposed federal project nor climate change effects as related to the proposal's design, environmental impacts, or mitigation or adaptation measures.

### Related Alliance Engagement on Climate Change Matters

In February 2007, the Family Farm Alliance Board of Directors made climate change a priority issue for the Alliance to engage in, and later that year, the Alliance released a climate change report, titled *“Water Supply in a Changing Climate: The Perspective of Family Farmers and Ranchers in the Irrigated West”*. That report was prepared by a climate change subcommittee, members of our Advisory Committee, and water resources experts from around the West. Our report shows that climate change, regardless of its cause, could further strain fresh water supplies in the American West. We must begin to plan for that now, and not wait until we are forced to make decisions during a crisis. Since that time, Alliance representatives have testified four times before Congressional committees and our organization has been invited to speak on this topic at meetings sponsored by the California Agricultural Irrigation Association, Union of Concerned Scientists, Water Education Foundation, National Water Resources Association, Idaho Council on Industry and the Environment, Nevada Water Resources Association, and the Mid-Pacific Water Users.

The SECURE Water Act - enacted two years ago in the Omnibus Public Land Act (P.L. 111-11, Title IX, Subtitle F) - includes water science initiatives, water efficiency programs, and an attempt to better understand and adapt to the water-related impacts of global climate change. Many of these provisions are very close to recommendations provided by the Alliance in its congressional testimony. While much of the debate surrounding what to do about climate change has centered on mitigation for greenhouse gas emissions, the Alliance believes that climate change policies for irrigated agriculture in the future need to address adaptive approaches that prepare for the worst case scenarios predicted for Western watersheds.

## **ENVIRONMENTAL PROTECTION AGENCY**

### **Summary of Key EPA Actions**

EPA continues its vigorous efforts to re-write U.S. environmental policy through administrative rulemaking. For the past three years, the Family Farm Alliance has raised the flag regarding rulemaking efforts undertaken by EPA, many of which hold potentially harmful implications for Western farmers and ranchers. Several recent actions taken by EPA have catalyzed these concerns:

- ☛ The Administration is now pursuing a formal rulemaking that would “clarify” the jurisdiction of the EPA and the Corps over wetlands and waterways as “waters of the U.S.” under the Clean Water Act (CWA). Such a rule may supersede the long awaited and controversial CWA guidance on the topic. EPA and the Corps have been planning for some time to revise the policy for determining when isolated wetlands, intermittent streams and other non-navigable waters are subject to regulation under the water law, mostly to clarify the Supreme

Court split ruling in the *Rapanos* and *SWANCC* decisions. In 2011, the Administration issued draft guidance that allows regulators to use either of two Supreme Court tests for determining whether waters are subject to regulation, an approach that expands CWA jurisdiction, but the final version of that guidance has yet to emerge from a White House Office of Management and Budget review that began in February 2012.

CWA jurisdictional issues are uncertain, particularly in areas where Western farmers and ranchers store, move and apply water for irrigation. For example, Section 6 of the draft guidance, which addresses “other waters” of the U.S., is particularly vague. This uncertainty brings with it the risk of additional regulations, time-consuming and potentially expensive procedures, expanded opportunities for litigation, and a shift from local and state water management towards increased federal agency regulation and oversight. Granted, the draft guidance would theoretically preserve current CWA exemptions enjoyed by the agricultural community such as the agricultural return flow exemption and the agricultural ditch operations exemption. However, the draft guidance’s approach to defining “other waters” is so expansive that it could be interpreted to render such exemptions meaningless. Our farmers and ranchers simply do not need another layer of difficulty added to a profession that is already saddled with significant challenges.

- On June 2, 2010, EPA released its draft National Pollutant Discharge Elimination System (NPDES) general permit for point source discharges from the application of pesticides to waters of the U.S. Many Western water users are significantly impacted by the court order declaring that certain lawful pesticide applications that are already regulated under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) are nevertheless subject to Clean Water Act NPDES permits issued by EPA or delegated states. This situation is the result of a 2009 decision of the 6<sup>th</sup> Circuit U.S. Court of Appeals that not only ignores Congressional intent but is unprecedented in the four-decade history of the law. This decision provides virtually no environmental benefit because all pesticide applications in fact are already stringently regulated through FIFRA, including applications to and near water. EPA’s FIFRA registration program contains specific consideration for such use patterns. The CWA permit compliance requirement impose resource and liability burdens on thousands of farms, ranches and agencies legally responsible for protecting public health, and exposes them to citizen lawsuits over infractions as minor as paperwork violations. Ultimately, we believe that the permit jeopardizes public health protection and the economy as regulators and businesses expend time and resources to implement and comply with these permits, all for no additional environmental benefits.

The duplicative requirements affect all levels of government and industry, causing further unfunded mandates on fragile industries and governments, creating additional red tape, squeezing existing resources, and threatening further legal liabilities. Pesticides play an important role in protecting public health, the nation’s food supply, natural resources, infrastructure and green spaces. They are used not only to protect crops from destructive pests, but also to manage mosquitoes and other disease-carrying pests, and invasive weeds that choke canals and other waterways. The Alliance earlier this year formally supported HR 935, the Reducing Regulatory

Burdens Act of 2013, which is intended to remedy this problem. This NPDES legislation is identical to HR 872 from last Congress.

- ☛ EPA issued the final version of its five-year strategic plan in late 2010. The final plan is similar to a draft released in June 2010 and reiterates the agency's intention to implement strong climate change actions. While EPA previously focused more on incentive programs, it will now mix voluntary programs with "additional regulatory actions as needed." It is unclear what aspects of the plan were tweaked in light of the 500 public comments received (including ours).
- ☛ The release of EPA's strategy- "Coming Together for Clean Water" - carries with it the same concerns we have with the Strategic Plan (above).
- ☛ The Central Arizona Project is facing expensive EPA-mandated emissions upgrades for the Navajo Generating Station (NGS). These required emission upgrades are intended to satisfy unique, and some would say unnecessary and questionable, visibility criteria - driven in part by the proximity of NGS to Grand Canyon National Park and other national monuments - and carry with them huge costs that would have to be passed along to local farmers and ranchers and the Navajo Nation.
- ☛ Recent guidance from EPA regional offices show a clear bias against water storage projects that appears to prejudge potential projects without consideration of important civic, economic and environmental needs.
- ☛ The administration is reconsidering a 2008 EPA rule recently upheld in the 11<sup>th</sup> Circuit Court of Appeals that allows water transfers from one water body to another without Clean Water Act (CWA) permits. Any potential new level of regulation, permitting and the certain litigation to follow could hamstring the economies of states like Arizona, California and Colorado, where millions of acre-feet of water are transferred between watersheds every year.
- ☛ EPA in the Northwest has failed to establish clear procedures for its pesticide effects determinations and subsequent actions consistent with 1988 amendments to the Endangered Species Act (ESA). This has resulted in unnecessary restrictions without any indication that Pacific Northwest salmon will benefit and places producers along the West coast at a competitive disadvantage.
- ☛ EPA and the National Oceanic & Atmospheric Administration (NOAA) agreed to a settlement agreement with environmentalists in the case, *Northwest Environmental Advocates (NWEA) v. Locke, et al.* This Oregon settlement could set dangerous national precedent for establishing enforceable limits for nonpoint sources of water pollution, an approach that is inconsistent with the Clean Water Act but could be replicated in other regions to regulate nonpoint runoff from farms.
- ☛ EPA has singled out the state of Florida as the first state in the nation in which they proposed to establish a numeric nutrient standard for all bodies of water. These proposed standards were imposed on the basis of an EarthJustice lawsuit and would have established nitrogen and

phosphorus numeric standards that would have been much different from the rest of the country. At a public hearing, Florida farmers said cutting fertilizer use to lower nutrient levels to meet these numeric standards would cripple their crop yields and increase their production-unit costs. While the proposed new regulatory provision would have been specific to nutrients in Florida, and the state has since proposed and received EPA approval of standards that are not quite as stringent as the EPA proposed standards, a coalition of environmental groups is now pressing the agency to set nutrient criteria for Wisconsin waters and elsewhere in the country.

- ☛ EPA has launched an effort to develop the so-called Green Book, a project to ensure all EPA policies are driven by “sustainability”. EPA’s current policies and regulations are driven by statutes that oversee individual issues, such as pesticides, air pollution and drinking water contaminants. But a committee of the National Academy is developing a framework for the EPA to link all environmental issues and ensure its policies rely on sustainable use of energy, water, land and other resources. EPA claims that current approaches are “fragmented”, instead of just focusing on risks. So, it appears EPA is moving from a scientific based regulatory scheme (where their application of true science has long been debated) to an amorphous and ambiguous ‘sustainability’ format. This could very well allow EPA to advance what could be seen as an anti – agricultural production agenda, absent congressional direction and oversight.
- ☛ EPA issued a remarkable memorandum that has the effect of regulating air quality under the Clean Water Act (CWA) based on the theory that air is tributary to waters of the United States. The memorandum directs states to designate waters bodies as impaired if they do not meet water quality standards because of acidification caused by air pollution. In other words, States or EPA could potentially attempt to regulate CO<sub>2</sub> emissions under the CWA.
- ☛ As part of a legal settlement with environmental groups, EPA has crafted draft guidance on when concentrated animal feeding operations (CAFOs) have a "duty" to seek Clean Water Act discharge permits. The agreement settles part of an ongoing lawsuit against a Bush administration rule that changed permitting requirements for CAFOs. The settlement requires EPA to initiate a new national effort to track unpermitted farms and determine whether they should be regulated. EPA proposed new agency guidance as part of the settlement.
- ☛ A March 2013 EPA survey found that more than half of the nation’s river and stream miles are in “poor condition” for aquatic life. The 2008-2009 National Rivers and Stream Assessment reflects the most recent data available, and is part of EPA’s expanded effort to monitor waterways in the U.S. and gather scientific data on the condition of the Nation’s water resources. EPA plans to use this new data to inform decision making about addressing critical needs around the country for rivers, streams, and other waterbodies.

Concerns over the samples used to create the baseline for EPA’s river and stream assessment dominated a meeting between agriculture groups and acting agency water chief Nancy Stoner on April 2 and will be the subject of at least one future meeting between EPA and the industry. The agriculture industry is critical of the assumptions underlying EPA's draft survey, saying the report -



- which claims resources are "under significant stress" due to excess levels of nutrients and other pollutants -- cherry-picks "pristine" baseline conditions not achievable in areas with even minimal human impact. The draft assessment is expected to provide officials with a new justification to clamp down on urban and agricultural stormwater runoff. Ms Stoner suggested in a statement that the survey results may help the agency justify a pending policy on the reach of the Clean Water Act that the agency has long sought to ensure the Act subjects upstream reaches, tributaries and other marginal waters to regulation. This development typifies previous concerns we have had, where the agencies set the water quality limits on our rivers and streams at unrealistic and unattainable levels. The same thing could occur on the quantity side of the equation with a recent water budget developed by the U.S. Geological Survey.

- EPA is increasingly claiming that waterbodies are "aquatic resources of national importance" (ARNI) when it reviews proposed Army Corps of Engineers' Clean Water Act (CWA) permits, triggering industry concerns that the threatened designations, which elevate permit reviews to the agencies' headquarters, are slowing permitting decisions and forcing stricter discharge limits. Under a 1992 memorandum of agreement with the Corps, EPA can use ARNI designations as one tool in determining whether to elevate a CWA Section 404 permitting decision to a higher level, moving it up the chain from Corps districts and agency regional offices to the headquarters of both agencies where it can receive a greater degree of scrutiny.

Though EPA has used the designation less than two dozen times since 1992 to actually elevate a Section 404 permitting decision, industry sources say the agency is increasingly threatening to designate waters as ARNI in comment letters to suggest that proposed permits could be elevated if key changes are not made. This is troubling, given that the designations are not judicially reviewable, are not defined in regulations or legislation, and are difficult to track.

While concerns over ARNI designations have arisen frequently with respect to Section 404 permits to authorize mining operations, EPA and some plaintiffs are also citing them in several other pending development projects. For example, EPA and other agencies are threatening to delay Corps permitting for a long-delayed flood mitigation project in southeast Missouri in part because it would threaten an ARNI. EPA has said that the long-delayed project "could potentially have the largest negative impact on wetlands and streams of any project ever proposed in Region 7." As a result, Sen. Roy Blunt (R-MO) has placed a hold on Gina McCarthy's nomination to lead EPA until the agency drops its objections to the project.

- EPA in 2012 made significant progress on completing its report, titled *The Value of Water in the U.S. Economy*. EPA officials said the report was intended to provide additional support for future capital investments in water infrastructure, among other things. A "Background Report," which was developed by Industrial Economics, Inc., was the first product of the study effort, and was released for public comment in early 2012. Half a dozen "experts" were tasked with writing additional papers for consideration. The expert reports and the background piece were the subjects of a day-long symposium on the topic EPA held in September 2012. Participation in the symposium/meeting was by invitation only, and the Family Farm Alliance was the only non-

governmental agricultural association invited to participate. The main product from the study was a “synthesis report,” which was put out in draft form in early December 2012. The report will also be reviewed by EPA’s Science Advisory Board. EPA then conducted its “Importance of Water to the U.S. Economy” symposium in December 2012 in Washington, D.C. Alliance representatives participated in the symposium via webcast.

Thus far, it appears that EPA appreciates our participation to date, and accurately reflected our findings in the meeting notes from the September workshop. It is unclear as to how this effort will be used to influence future EPA direction. EPA has noted for the record that this particular effort is looking at just one piece of the question of the value of water. It intentionally focuses on market values as they are recognized in the economy today, while recognizing that this is a difficult pursuit. Despite skepticism from industry interests, EPA says this effort is not designed to address regulatory issues and will not be analyzing holistic, systems-level questions that some attendees have raised.

## **ENDANGERED SPECIES ACT DEVELOPMENTS**

### **The Negative Impacts of Environmental Litigation**

Our recent research into litigation associated with federal environmental laws is beginning to uncover some unsettling facts: the federal government appears to be spending about as much money funding environmental lawyers as it does to directly protect endangered species. Tax-exempt, non-profit organizations are essentially receiving reimbursements for their attorney fees from the federal government.....for suing the federal government. Funds awarded to the “prevailing” litigants are taken from the “losing” federal agencies’ budget. These funds could otherwise be used for on-the-ground programs to protect public lands, national forests, ranchers, fish and wildlife and other land uses.

### **U.S. Fish and Wildlife Service (USFWS) Settlement with Wild Earth Guardians and Center for Biological Diversity**

A federal judge in 2011 approved a pair of sweeping settlements that require the federal government to consider protections under the federal Endangered Species Act (ESA) for more than 800 animal and plant species. The order by U.S. District Judge Emmet Sullivan means the government must act on hundreds of imperiled species that could generate new additional uncertainty for producers throughout the Western United States. Some decisions have been made and others will be over the next five years. The agreement between the USFWS and environmental groups resolves more than a dozen lawsuits that challenged the government's handling of roughly 250 "candidate species." Those are animals and plants that activists say are in dire need of protection but that the government has lacked resources or the data to address under the ESA. The agreements also cover more than 600 species for which environmental activists had filed legal petitions seeking protections. The government agreed to address those petitions as well.

These two settlement agreements are the culmination of what is known as the ESA multidistrict litigation. This case was formed in 2010 by combining 13 federal court cases filed by either the WildEarth Guardians (“WEG”) or the Center for Biological Diversity (“CBD”) –two particularly litigious environmental activist

organizations in the West – regarding 113 species. Unfortunately, the predictably enormous costs and all the other collateral damage that will come from agreeing to these listings are completely unknown. According to recent research conducted by the Budd-Falen law firm (WYOMING), the cost of the settlement agreements to the American taxpayer will be over \$206 million - just to process the paperwork. That figure does not include the reimbursement of attorney fees to the CBD and WEG.

Western agricultural producers who have seen firsthand the economic impacts that can accompany ESA single species management are wary and concerned. Litigation that often surrounds ESA listings and federal agency management decisions adds a whole new level of costs and uncertainty for farmers and ranchers who rely on federal water projects located in, and sometimes even outside areas where ESA-protected fish and wildlife live. With the possible addition of several hundred new species to the ESA list, there are also concerns that other agencies – including EPA - will be required to consult under the ESA with federal wildlife officials over the impacts of its decisions to the newly protected species. EPA could eventually be required to adopt, or compel the affected states to adopt, more stringent pollution control requirements to protect imperiled species once a settlement is reached with USFWS. Finally, given the size of the USFWS budget for this, and the timeline, there is certain to be a great deal of incomplete and otherwise inadequate science used to develop and support these listing decisions.

### **New ESA Policies**

Under the ESA, protections are extended to a species that is endangered or threatened "throughout all or a significant portion of its range." Prior regulations stated that protections may only apply to the "significant portion" of the habitat where the species is threatened or endangered, not to areas where the species exist and are healthy. However, two federal judges disagreed with that approach because it excluded some members of a listed species from ESA protection. The administration has proposed a replacement to resolve "tensions and ambiguities" in the law. The proposed policy states that if the viability of a species is at risk in a "significant portion" of its range, protections will apply across all of its range.

The first policy deals with how the government protects a species that faces varying levels of danger across its range of habitat. Another looming policy change, in the form of a rulemaking, involves the economic analysis that the government must conduct when designating an area as "critical habitat". The issue is especially worrisome because critical habitat designations could result in restrictions on private land if farmers and ranchers have federal crop insurance or other federal assistance. The combined effect of the policies would be to subject more land to ESA restrictions while relieving the government from considering the law's full economic impact, according to rancher advocates.

## **CLIMATE CHANGE ADAPTATION**

### **U.S. Fish and Wildlife Service: National Fish, Wildlife and Plants Climate Adaptation Strategy**

As noted earlier in this report, the Alliance has advocated in the climate change policy forum for water science initiatives, water efficiency programs, and toward a better understanding and ability to adapt to the water-related impacts of global climate change. While much of the debate surrounding what to do about climate change has centered on mitigation for greenhouse gas emissions, the Alliance believes that climate

change policies for irrigated agriculture in the future need to address adaptive approaches that prepare for the worst case scenarios predicted for Western watersheds.

In March, the federal government announced a new nationwide initiative. Its goal is to help wildlife adapt to the threats of climate change. The National Fish, Wildlife and Plants Climate Adaptation Strategy, which falls under the jurisdiction of USFWS and NOAA, plans to “reduce the negative impacts of climate change on fish, wildlife, plants, and the natural systems upon which they depend.” The plan lists seven goals, ranging from increasing awareness to safeguard wildlife from climate change and “enhancing capacity for effective management in a changing climate” to “reducing non-climate stressors to help fish, wildlife, plants, and ecosystems adapt to a changing climate.” We have significant concerns about the establishment of a far-reaching national mandate to use “*all practical means*” to protect fish and wildlife, without a comparable commitment to agriculture or other economic activities, which would likely exacerbate rather than avoid conflicts over the management of our natural resources. All other interests would become secondary to this new natural resources goal, and this bias would impede efforts to achieve an appropriate balance between agricultural production and resource conservation.

#### **FOOD AND DRUG ADMINISTRATION (FDA) FOOD SAFETY MODERNIZATION ACT**

FDA has released for public comment a proposed rule on Preventive Controls for Human Food and a proposed rule on Standards for Produce Safety. Farms would be required to meet national standards for the quality of water applied to their crops that are generally consumed raw and not processed, as water can be a pathway for pathogens. It appears that FDA has adopted EPA’s recreational water quality criteria using *E. coli* as the surrogate pathogen for irrigation water. This proposed rule has far-reaching implications. Testing, monitoring, treatment and other significant costs will have to be borne by somebody, but farmers are price takers – not price makers, and would have to absorb these costs initially. Produce marketers are pushing the notion of stricter food safety, which is commendable, and which works for their industry. However, these proposed rules could have a real impact on the ability of water providers to deliver irrigation water and may subject them to significant risk if a water-related disease outbreak occurs or if a farmer is required to shut down an irrigation system (proposed as a requirement under the rule) for an extended period of time due to a spike in spot-monitored bacteria levels, and causing an entire crop to be destroyed. The Alliance and all other Western water groups strongly support appropriate food safety measures, but advocates of the proposed rules will quickly brand any organization criticizing them as “anti-food safety.” It will be important to demonstrate which actions are necessary and which are not, and to make clear that draconian restrictions are actually an impediment to assuring a safe food supply since unachievable requirements will drive food production offshore.

#### **NATIONAL COMMITTEE ON LEVEE SAFETY (NCLS)**

Since late 2010, Western water managers have become aware of and are becoming increasingly concerned with actions undertaken by the NCLS. This group, authorized in the Water Resources Development Act (WRDA) of 2007 includes the Corps and FEMA as the only federal agencies represented on the Committee. The NCLS was established to deal with post- Katrina flood risk issues, with an emphasis on Corps levees. However, the NCLS developed a plan that essentially would apply Corps-level engineering specifications

and standards to levees and specific irrigation canal embankments throughout the country, with little to no initial coordination with Reclamation and Western water managers. The nation-wide inspection program and new project condition and maintenance standards recommended by the NCLS would be duplicative of existing federal law, and would increase federal and non-federal costs without a corresponding increase in public safety or assurances of financial support. It would also open up the potential for greater liability to water project operators.

Title VI of the recently passed Senate Water Resources Development Act (WRDA) bill introduced earlier this year by Senator Boxer (CALIFORNIA) deals with authorizing a new national levee safety program, similar to the one proposed by the NCLS. This issue has been a key concern the Alliance has tried to address with the NCLS, Corps of Engineers, and Congress in the past two years. Currently as written, the language is somewhat problematic for us, although our initial analysis suggests that Reclamation's water supply facilities (canals, laterals, drains) are appropriately excluded from levee safety provisions by the draft bill. Reclamation also does not believe its canals and water supply infrastructure fall within the bill's definition of "levee". So, our current read is that Reclamation's canals and water supply infrastructure are not subject to the Army Corps of Engineers' inventory and inspection program, and will remain under Reclamation's inspection regime. It is still not clear how non-federal canals that carry water for water delivery and power purposes would fall under the new proposed levee safety program.

## **OTHER**

Other Administration initiatives that do not necessarily directly impact Western water users must also continue to be monitored, including administrative policy and regulatory actions relating to the Chesapeake Bay and the Mississippi River Basin Healthy Watersheds Initiative (MRBI). In this latter initiative, the Natural Resources Conservation Service (NRCS) and its partners work with producers and landowners to implement voluntary conservation practices that improve water quality, restore wetlands, enhance wildlife habitat and sustain agricultural productivity in 13 Midwestern and Southern states. NRCS has identified the Mississippi River Basin as a top priority due to water quality concerns, primarily related to the effects of nutrient loading on the health of local water bodies and, eventually, the Gulf of Mexico. The Initiative will build on the past efforts of producers, NRCS, partners, and other State and Federal agencies in the 13-State Initiative area by addressing nutrient loading in priority small watersheds within the Mississippi River Basin. Through MBRI, NRCS and its partners use a "conservation systems approach" to help producers avoid, control and trap nutrients and sediment to address water quality concerns. This is accomplished by optimizing nitrogen and phosphorus use efficiency in agricultural fields, minimizing nutrient and water runoff and improving soil health. The manner in which federal agencies ultimately assess the results of both the Chesapeake Bay and Mississippi River initiatives could set a precedent for how the federal government tackles water quality issues in other parts of the country, including the West.

## **CONCLUSIONS AND RECOMMENDATIONS**

We believe the federal water resources policy actions and regulatory practices highlighted in this white paper could potentially undermine the economic foundations of rural communities in the arid West by making farming and ranching increasingly difficult. American family farmers and ranchers for generations have grown food and fiber for the world, and will have to muster even more innovation to meet this critical challenge. That innovation must be encouraged rather than stifled with new federal regulations and uncertainty over water supplies for irrigated farms and ranches in the rural West.

Even during the recent recession, irrigated agriculture remained a bright spot as one of the largest economic engines in the Western U.S., according to a recent Family Farm Alliance report, entitled “The Economic Importance of Irrigated Agriculture”. For a region that spans the 17 Western states, the total household income impacts derived from the “Irrigated Agriculture Industry” – which is made up of direct irrigated crop production, agricultural services, and the food processing and packaging sectors – is estimated to be about \$128 billion annually.

Federal water policies often reflect a “one size fits all” approach. Farmers, ranchers and other conservationists know that the best water solutions are unique and come from the local, watershed and state level. They know we need policies that encourage agricultural producers, non-governmental organizations, and state and federal agencies to work together in a strategic, coordinated fashion. We need to modernize and re-build parts of our current institutional structure, so that water resources can be managed specifically, not generically. We must get a handle on changing weather patterns and assess how the agricultural landscape and water security will be impacted due to a changing climate. And we must develop a clear understanding of the resulting limitations on our ability to feed the world when we take domestic agricultural lands out of production as water tied to those lands is moved to urban areas or the environment.

### **Possible Solutions to Environmental Litigation Against Federal Agencies**

The Obama Administration has consistently prioritized efforts to increase openness in government. In his January 21, 2009, Open Government Directive, the President instructed federal agency heads to promote openness in government by “establishing a system of transparency, public participation, and collaboration.” EPA has responded to the President’s directive by developing and implementing an Open Government Plan.

We believe EPA should develop a notification system that would immediately provide all stakeholders with timely and transparent access to information involving any legal action, or notice of intended legal action, against the EPA. The implementation of such a system would significantly further these critical open government goals and address a significant hole in the public’s access to information while fulfilling the government’s obligations to keep the public and the stakeholders informed of actions and developments of potential impacts. Such a tool could be a web portal or list serve that would provide transparent and timely information about such actions or communications in a judicious fashion. In fact, EPA’s current database of civil cases and settlements provides similar information in EPA enforcement actions and could serve as a ready-made template to disclose information in actions against EPA.

## **Other Areas of Improvement to the ESA**

The Alliance will continue to work to advocate for common-sense improvements to ESA implementation:

- ☞ Ending citizen suit and environmental lawsuit abuse
- ☞ Changing the culture of ESA implementation
- ☞ Streamlining Section 7 consultations
- ☞ Guaranteeing peer review and transparency in ESA implementation
- ☞ Ensuring that ESA decisions and species recovery measures maximize efficiency of committed resources and minimize economic impacts where possible
- ☞ Ensuring compatibility of species protection efforts with property and water rights
- ☞ Improving listing and critical habitat designation process
- ☞ Encouraging voluntary conservation
- ☞ Seeking ability of non-federal governments to participate in legal settlements reached by USFWS

## **Next Steps**

Several regulatory proposals have been released in recent years on which the Alliance has provided detailed and substantive comments reflecting our priorities. It is anticipated that additional proposals will be released in the year ahead that will have significant implications for our members. We will seek opportunities to work with the administration as proposals are developed and will comment through the public rulemaking processes and other available avenues as those opportunities become available. The Family Farm Alliance prides itself on collaborative, common sense solutions, working and partnering with the federal agencies, the Congress and other interested groups and stakeholders to find common ground on tough issues. While we are committed preserving and protecting irrigated agriculture in the West, we also realize that we are blessed with a shared resource and believe in balancing these attributes to achieve sustainable practical solutions to tough water problems. We look forward to working with the Obama administration in its second term to further these principles for the good of the Nation.





**From:** Jason Peltier

**Sent:** Tuesday, May 28, 2013 10:52 AM

**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'Cheryl Faunce'; 'David Bernhardt'; 'Dennis Cardoza'; 'Denny Rehberg'; 'Doug Subers'; 'Ed Manning'; 'Erick Mullen'; 'Fowler West'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'MargaretAnn Corbett'; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'; 'Vin Weber'; 'T Birmingham'

**Subject:** C-WIN [green NGO] in Contra Costa Times on Costa Bill

## Guest commentary: Costa's move to gut the ESA will destroy the Delta

By Carolee Krieger, guest commentary © 2013 Bay Area News Group [contracostatimes.com](http://contracostatimes.com)

Posted: 05/25/2013 04:00:00 PM PDT

Congressman Jim Costa is at it again, doing everything he can to drain the Sacramento/San Joaquin Delta and send the water south to the megafarms of his agribusiness cronies in the western San Joaquin Valley.

This time Costa has introduced legislation to exempt the State Water Project and the Central Valley Project from the pumping restrictions stipulated by the U.S. Endangered Species Act to protect Chinook salmon and the Delta smelt.

Under Costa's bill, pumping at the two huge government plants in the south Delta could not be restricted between April 1 and May 31 -- precisely the times when young salmon and other fish are "entrained" into the pumps and ground to pulp.

Costa vows the exemption is "about giving relief and economic security to all Californians." We're used to his irrational hostility to any kind of equitable distribution of our precious natural resources, but we're still surprised he can make such a spurious claim with a straight face.

The main beneficiaries of such an exemption would be the few hundred corporate farms on the west side of the San Joaquin Valley -- farms that already account for the lion's share of the Delta's water.

It certainly won't benefit the thousands of family farmers in the Delta, who are already menaced by the rapacious water grab of the San Joaquin water barons. Nor will it be anything but disastrous for our imperiled salmon fisheries.\

Both our Delta farmers and our salmon fishermen contribute significantly to our food supplies and regional economies. But Costa seems blithely unconcerned about their welfare.

Finally, the exemption will have dire consequences for East Bay and South Bay residents, who receive much of their water from the Delta, and who use the Delta for a wide range of recreational activities.

The water quality in the Delta declines in proportion to the amount of water we send south. That affects all the residents of the greater Bay Area, of course, and it also affects San Francisco Bay itself.

The Bay/Delta system comprises the largest estuary on the West Coast. It is a vast aquatic nursery that sustains not just our salmon, but our Dungeness crab, white sturgeon, and herring fisheries as well. By allowing unrestricting pumping, we would assure the death of the Delta's already beleaguered ecosystems.

Costa is right about one thing: California is in a water crisis. But this is nothing new. And it must be remembered that this crisis was largely precipitated by oversubscription of our scant water resources.

So how do we deal with the crisis? First, call out politicians who throw around red herrings. We need to make sure people understand the real stakes behind these cynical attempts to gut the Endangered Species Act. It is by no means perfect legislation, but it has done yeoman's service for the people, our resource-based economies and the environment.

Then we must revise the distribution of our water, allocating it where the need is greatest and where it will do the most good. We have enough water to support the needs of urbanites, agriculture and the environment, but we must have policies that are rooted in the 21st Century.

We can implement a variety of strategies to reduce Delta exports while simultaneously assuring water security, and we can do it without hocking the future of our children and grandchildren. These include land retirement, water conservation and recycling, storm water capture, accelerated adoption of agricultural drip and micro-sprinkler irrigation systems, and xeriscaping (landscaping using drought-resistant plants).

Finally, please contact Congressman Costa and tell him to quit posturing. It's time he served the people, not the puppet masters.

Carolee Krieger is the executive director and co-founder of the California Water Impact Network.

**From:** Jason Peltier

**Sent:** Friday, May 31, 2013 7:16 AM

**To:** 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'Cheryl Faunce'; 'David Bernhardt'; 'Dennis Cardoza'; 'Denny Rehberg'; 'Doug Subers'; 'Ed Manning'; 'Erick Mullen'; 'Fowler West'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'MargaretAnn Corbett'; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'; 'Vin Weber'; 'T Birmingham'

**Subject:** Daily Kos // Delta Delegation

Thu May 30, 2013 at 03:58 PM PDT

## California Members of Congress Blast BDCP Process and Plan

by [Dan Bacher](#) [Follow](#)

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For Immediate Release: Thursday, May 30, 2013

Call BDCP a disaster for the Bay-Delta region and urge officials to halt process and consider the concerns raised by northern California stakeholders

SACRAMENTO, CA – Today, several Members of Congress from the Sacramento-San Joaquin Bay-Delta region spoke out against the current Bay Delta Conservation Plan (BDCP) and the lack of input afforded their constituents at a press conference in Sacramento. The current BDCP proposed by Governor Brown, the U.S. Department of Interior and south of the Delta interests would devastate the Delta region and ignores the concerns repeatedly raised by stakeholders in the Bay-Delta region.

Recently, the State of California released a 20,000 page long Administrative Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the BDCP. Chapters 1-7 of the plan were released in the last few months and Chapters 8-12, which include the financing mechanism, were released yesterday.

"The State of California, in partnership with the federal government, is on the verge of recommending a plan for California's water future that does nothing to solve California's water problems and is a disaster for northern California. For more than six years the BDCP has ploughed its way ahead led by a very small group of individuals, none of whom represent northern California. Our constituents and stakeholders in the Bay-Delta region have been shut out of the process. To find a long-term solution all of the stakeholders, not just the beneficiaries of the project, must have a seat at the decision-making table. We can and we must do better for California. Unfortunately, the current BDCP falls far short." – Rep. Doris Matsui (CA-6)

"The Governor recently released additional information on his deeply-flawed plan for the Delta region, which further proves he is intent on forcing this plan forward without any regard for the farmers, families and small business owners who rely upon a healthy Delta for their livelihoods, or for the incredible environmental damage that will result. As it stands, the plan will cost billions of dollars, devastate the most valuable water resource we have in California, and ultimately create no new water. There is a better way forward, and it must include the input of the people who stand to lose the most if the Delta is destroyed." – Rep. Jerry McNerney (CA-9)

"The proposed BDCP is not a workable solution. It puts the interests of South-of-Delta water contractors ahead of the Delta's and North-of-Delta's farmers, fishers and small business owners. Livelihoods are at stake. Until we have a plan that is transparent, based on sound science and developed with all stakeholders at the table, then any process that moves us closer to building these tunnels will recklessly risk billions of California tax dollars and thousands of jobs. Let's take the time to get this right." – Rep. Mike Thompson (CA-5)

"Governor Brown and his administration officials have failed to demonstrate that they are taking into account the real physical and financial harm that can come to Bay-Delta communities if a BDCP plan is pushed through without the proper cost benefit analysis of alternatives, an adequate finance plan, or without acknowledging the best available science—science that has pointed to the real possibility that this plan could overtax our water resources and devastate the Bay-Delta region. Without doing so the BDCP is further than ever from a sustainable policy. It is time to seriously reevaluate this plan to ensure it fulfills the co-equal goals that it is mandated to adhere to, and takes into consideration the concerns of the businesses, families and communities that rely on a viable, healthy Bay-Delta region for their livelihoods."  
– Rep. George Miller (CA-11)

"The California water system is under enormous stress from a growing population and climate change. The proposed peripheral tunnel plan fails to deliver a real solution for this fundamental problem. Without adding a single drop of new water to the state's supply, the tunnels would deliver massive amounts of water from Northern to Southern California, destroying the Sacramento Delta in the process. Instead of wreaking havoc on the Delta region with a massive, expensive plumbing system, we need a cost-effective, comprehensive water plan. I have outlined a strategy that would add to our water supply through conservation, recycling, storage, and improvements to our levees while respecting water rights and using the best science. It's time for a midstream correction to the BDCP: let's bring everyone to the table and develop a plan that meets the needs of all Californians." – Rep. John Garamendi (CA-3)

"All of us here understand that water is critical in our state and that there needs to be a bay delta solution that does not put south-of-delta water contractors ahead of everyone in or north-of-delta. It's vital for our health, our environment, and our wallets that we have a comprehensive, long-term plan for securing water access and storage that's based on sound science. The livelihoods of our local farmers, anglers, and small business owners are at stake, and the potential risk to jobs and billions of California tax dollars is too big to ignore. Continuing with this plan, without getting input from all stakeholders, and without considering other alternatives is a bad idea for Sacramento County families." – Rep. Ami Bera (CA-7)

**CONTACT:**

Jonelle Trimmer (Rep. Matsui) 202-225-7163  
Lauren Smith (Rep. McNerney) 202-225-1947  
Austin Vevurka (Rep. Thompson) 202-225-3311  
Peter Whippy (Rep. Miller) 202-225-2095  
Donald Lathbury (Rep. Garamendi) 202-570-3178  
Allison Teixeira (Rep. Bera) 202-225-5716

**From:** Jason Peltier  
**Sent:** Monday, June 17, 2013 9:31 AM  
**To:** Joe Findaro; David Bernhardt  
**Subject:** FW: Delegation Meeting and BDCP

fyi

---

**From:** Dan Nelson [<mailto:dan.nelson@sldmwa.org>]  
**Sent:** Monday, June 17, 2013 9:25 AM  
**To:** Ara Azhderian; Jason Peltier  
**Subject:** FW: Delegation Meeting and BDCP

---

**From:** Petersen, Scott [<mailto:Scott.Petersen@mail.house.gov>]  
**Sent:** Monday, June 17, 2013 9:17 AM  
**To:** Costa, Jim  
**Cc:** [tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org); Dan Nelson; LeMay, Ian  
**Subject:** FW: Delegation Meeting and BDCP

Jim,

Please see the below e-mail being circulated by the Delta folk to the CA Dem delegation before the BDCP briefing by Laird/Meral, etc. I'm drafting a response.

Tom/Dan,

Please review and provide any counterpoints you'd like included.

Best, Scott

-----  
J. Scott Petersen, P.E.  
Rep. Jim Costa (CA-16)

---

**From:** Arness, Patrick  
**Sent:** Monday, June 17, 2013 11:53 AM  
**Cc:** Rohr, Nicole  
**Subject:** Delegation Meeting and BDCP

Hi all –

Please see the dear colleague below related to tomorrow's delegation meeting on the BDCP.

-Patrick

Patrick Arness  
Legislative Director  
Office of Congressman Jerry McNerney (CA-09)  
1210 Longworth House Office Building  
Washington, D.C. 20515  
202-225-1947



June 17, 2013

Dear Colleague:

The Bay Delta Conservation Plan (BDCP) was created to both restore the Sacramento-San Joaquin Delta and ensure that Californians have a reliable water supply. Addressing the state's long-term water issue is of critical importance; the BDCP has enormous consequences for all Californians, whether it's water quality, rate increases, water supply, or environmental protections. The Brown Administration will be briefing the California Democratic Delegation on June 18 to discuss its efforts on the BDCP, and we view this as an opportunity to inform members with background, pros and cons of the project, and opportunities to move forward.

California's complex water transport and delivery system is operated at both the state and federal levels and consists of many canals, dams, and reservoirs. This system supports natural resources and wildlife, provides drinking water for more than 25 million people, and sustains the most robust agriculture production in the world. The source of this valuable but finite water is the Sacramento-San Joaquin River Delta.

Maintaining a healthy environment and reliable water delivery are issues that affect all of us and our constituents, regardless of where your district is located. These issues inspire vigorous debate, and we must remain united as a delegation.

Currently, the Brown Administration is moving forward with the BDCP, with the supposed co-equal goals of restoring the Delta ecosystem and ensuring water reliability throughout the state. This is a complicated issue that requires input of all stakeholders but to date, many have been shut out of the process. Two facts are certain: the status quo is unsustainable, and there is a critical need for improving water reliability and protecting California's environment.

However, the proposed BDCP – which will now cost tax payers more than \$24.5 billion – is not based on sound science. Also, there have not been adequate cost-benefit studies conducted to justify the ever-rising cost associated with this project. According to Brown Administration officials, the BDCP does not create any new water for the state; it simply takes from one hand to give to the other. Furthermore, federal agencies responsible for approving the Clean Water Act and National Environmental Policy Act permits that will be required to move forward with any proposal have expressed concerns with the impacts the BDCP will have on California's water quality and environment.

Everyone is committed to improving water reliability through a path forward that is satisfactory to all stakeholders. Whether that plan includes strengthening levees, additional water storage, or an improved water conveyance system we should all support a solution that will benefit water reliability, create more water for California, and protect the health of the Bay Delta. We believe all of this can be accomplished at a lower cost than the cost of the current proposal for the BDCP.

During this time of strained budgets at all levels of government, we believe taxpayers deserve complete transparency regarding a project that will affect their livelihoods, water supply, and wallets. We urge you to join us in working toward a water solution that will be the most beneficial for California.

For more information, please contact Patrick Arness ([Patrick.arness@mail.house.gov](mailto:Patrick.arness@mail.house.gov)) with Rep. Jerry McNerney or Nicole Rohr ([Nicole.rohr@mail.house.gov](mailto:Nicole.rohr@mail.house.gov)) with Rep. Mike Thompson.

Sincerely,



	/s/Jerry McNerney	/s/Mike Thompson	/s/George Miller	/s/Doris
Matsui	/s/John Garamendi	/s/Ami Bera		



**From:** Karen Clark

**Sent:** Tuesday, June 18, 2013 11:25 AM

**To:** 'James Watson'; Craig Manson; Bernhardt, David L.; caikens@ycwa.com; Paul Barkiewicz; Richard Golb

**CC:** Karen Clark; Rose Schlueter

**Subject:** Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

All,

Tom will be on vacation next week so please email me your availability for a conference call on the following dates:

July 1

July 2

July 3

July 5

July 8

July 9

July 10

July 12

*~Karen*

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Tom Birmingham [mailto:tbirmingham@westlandswater.org]

**Sent:** Saturday, June 15, 2013 9:05 AM

**To:** 'Karen Clark'

**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'

**Subject:** Conference Call

Karen,

During a meeting yesterday with representatives of Yuba County Water Agency it was suggested that a conference call with the people copied on this email be scheduled so that we can discuss development of a strategy to obtain regulatory assurances in connection with a potential water acquisition from the agency. Please schedule that call for sometime next week.

Thank you,  
Tom

**From:** Richard Golb  
**Sent:** Tuesday, June 18, 2013 11:32 AM  
**To:** Karen Clark  
**Subject:** Re: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

Karen - Thank you. July 1-2, and 12 are wide open.

**Richard K. Golb**  
PacificComm LLC  
201 NE Park Plaza Drive Ste 269  
Vancouver WA 98684  
360.397.0248  
360.326.1551 (fax)

On Jun 18, 2013, at 11:25 AM, Karen Clark <[kclark@westlandswater.org](mailto:kclark@westlandswater.org)> wrote:

All,

Tom will be on vacation next week so please email me your availability for a conference call on the following dates:

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Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

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**From:** Tom Birmingham [mailto:[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)]  
**Sent:** Saturday, June 15, 2013 9:05 AM  
**To:** 'Karen Clark'

**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'

**Subject:** Conference Call

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Thank you,  
Tom

**From:** Bernhardt, David L.  
**Sent:** Tuesday, June 18, 2013 11:33 AM  
**To:** 'Karen Clark'  
**Subject:** RE: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

I will make the dates work, ideally after the fourth would be best, but I will make it work.

**David Longly Bernhardt**  
**Brownstein Hyatt Farber Schreck, LLP**  
1350 I Street, NW, Suite 510  
Washington, DC 20005  
202.872.5286 tel  
[REDACTED] cell  
[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)

To ensure compliance with requirements imposed by the IRS, we inform you that any federal tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for purposes of (i) avoiding penalties under the Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any transaction or tax-related matter addressed herein.

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---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Tuesday, June 18, 2013 2:25 PM  
**To:** 'James Watson'; Craig Manson; Bernhardt, David L.; caikens@ycwa.com; Paul Barkiewicz; Richard Golb  
**Cc:** Karen Clark; Rose Schlueter  
**Subject:** Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

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~Karen

Karen Clark  
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(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

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**To:** 'Karen Clark'  
**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'  
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Thank you,  
Tom

**From:** Bernhardt, David L.  
**Sent:** Tuesday, June 18, 2013 6:36 PM  
**To:** Jason Peltier  
**Subject:** Re: Today

Thank you.

David Bernhardt  
202-████-████ (cell)

**David Longly Bernhardt**  
**Brownstein Hyatt Farber Schreck, LLP**  
1350 I Street, NW, Suite 510  
Washington, DC 20005  
202.872.5286 tel  
████ cell  
[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)

To ensure compliance with requirements imposed by the IRS, we inform you that any federal tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for purposes of (i) avoiding penalties under the Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any transaction or tax-related matter addressed herein.

STATEMENT OF CONFIDENTIALITY & DISCLAIMER: The information contained in this email message is attorney privileged and confidential, intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copy of this email is strictly prohibited. If you have received this email in error, please notify us immediately by replying and delete the message. Thank you.

On Jun 18, 2013, at 9:31 PM, "Jason Peltier" <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)> wrote:

## San Joaquin Valley farmers get bleak report on water supply

Published: June 18, 2013 Updated 5 hours ago

Mark Grossi The\_Fresno\_Bee  
<image002.jpg>

An overflow crowd listens to Ron Milligan, operations manager for the Central Valley Project, which is run by the U.S. Bureau of Reclamation during a meeting of Westlands Water District farmers in which they were told how the water crisis will be handled this summer. The farmers are expecting only 20% of the federal water they want to buy. The allotment was trimmed drastically this year after federal agencies cut back water pumping to protect dying fish.

By Mark Grossi — The Fresno Bee

FIVE POINTS — Growers jammed into the [Westlands Water District](#) field shop Tuesday to hear bad news: Expect a zero percent water allocation next February if winter doesn't start out stormy.

A leader with the [U.S. Bureau of Reclamation](#), which sells water to the farmers, described a bleak situation, but stopped short of predicting zero next year. Westlands general manager Tom Birmingham didn't hesitate.

"When we look at these dry conditions and low storage in reservoirs later this year, it's difficult to see how the initial allocation could be anything but zero, unless we have a very big December and January," he said.

The 2014 water allocation came up during a presentation by bureau operations manager Ron Milligan, who attended the Westlands board meeting to explain the water supply situation. More than 100 people, including many growers, filled the room, waiting to pick up hints on next year's allocation.

West San Joaquin Valley farmers rely on that first water estimate to plan their crops, set up loans and prepare the ground for planting.

A zero allocation could mean many thousands of acres are shut down in the 600,000-acre Westlands. Farmers were forced to fallow more than 100,000 acres in 2008, the last time the initial allocation was zero.

Farmers already are in survival mode, shutting down thousands of acres and buying water on the open market this year due to a 20% allocation.

Westlands contracts for more than 1.1 million acre-feet of water, but cutbacks have become common due to drought and wildlife protections.

West-side federal farm contractors buy Northern California river water that must be pumped from the troubled Sacramento-San Joaquin River Delta. From mid-December through February last winter, federal leaders were forced to cut the delta's water pumps to protect the dwindling delta smelt.

The cutback cost the federal and state water projects nearly 1 million acre-feet of water that could have been stored at San Luis Reservoir, west of Los Banos.

To compound the problem, Northern California suffered the driest combined January, February and March on record. It was an ugly end to a wet season that had begun with a wet November and December.

"A lot of things conspired to prevent the water system from working the way it should," said farmer Dan Errotabere, a Westlands board member. "It was one of those years that everyone knew would happen eventually."

Now, San Luis Reservoir is expected bottom out in August or September at its lowest level.

Northern California reservoirs still had about average amounts of water on April 1, said bureau operations manager Milligan. Shasta Reservoir is an important source of water for the Valley's west side.

But there was not much runoff from a small snowpack this year, and water users began taking water sooner than usual. Reservoir levels began plummeting.

At one point during spring, federal leaders were talking about dropping the west-side allocation to 15%, Milligan said. After working through various scenarios, the bureau finally concluded the allocation could remain at 20%, but it has been difficult.

"After April 1, we really got a wake-up call," Milligan said.

Farmer Ted Sheely said he has fallowed some acreage, deciding instead to leave some of his federal water in San Luis Reservoir and use it next year. He asked if there's any chance he would lose the water, which is sometimes called carry-over.

If the bureau needs the reservoir space, carry-over water can be lost, even though the farmer has paid for it.

Birmingham said, "The bureau always has discretion, but I can't imagine the circumstances where they would do it."

Read more here: <http://www.fresnobee.com/2013/06/18/3348954/san-joaquin-valley-farmers-get.html#storylink=cpy>



**From:** Paul M. Bartkiewicz  
**Sent:** Wednesday, June 19, 2013 7:20 AM  
**To:** Karen Clark  
**Subject:** Re: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

I will check and get back to you later today.

Sent from my iPhone

On Jun 18, 2013, at 2:25 PM, "Karen Clark" <[kclark@westlandswater.org](mailto:kclark@westlandswater.org)> wrote:

All,

Tom will be on vacation next week so please email me your availability for a conference call on the following dates:

July 1

July 2

July 3

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*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Tom Birmingham [<mailto:tbirmingham@westlandswater.org>]  
**Sent:** Saturday, June 15, 2013 9:05 AM  
**To:** 'Karen Clark'  
**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'  
**Subject:** Conference Call

Karen,

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Thank you,  
Tom

**From:** Paul M. Bartkiewicz  
**Sent:** Thursday, June 20, 2013 2:41 PM  
**To:** Karen Clark  
**CC:** Alan B. Lilly; caikens@ycwa.com  
**Subject:** RE: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

I can make any of these dates work. I am in MA with a 3 hour time difference, so the earlier in the day the better. **1-3 PM PM CA time is best for me.** I have copied Alana Lilly because I would like him on this call also if he is available.

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Tuesday, June 18, 2013 11:25 AM  
**To:** 'James Watson'; Craig Manson; Bernhardt, David L.; caikens@ycwa.com; Paul M. Bartkiewicz; Richard Golb  
**Cc:** Karen Clark; Rose Schlueter  
**Subject:** Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

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**From:** Tom Birmingham [mailto:tbirmingham@westlandswater.org]  
**Sent:** Saturday, June 15, 2013 9:05 AM  
**To:** 'Karen Clark'  
**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'  
**Subject:** Conference Call

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Thank you,  
Tom

---

No virus found in this message.

Checked by AVG - [www.avg.com](http://www.avg.com)

Version: 2013.0.2904 / Virus Database: 3199/6415 - Release Date: 06/16/13

**From:** Karen Clark

**Sent:** Monday, June 24, 2013 10:19 AM

**To:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; caikens@ycwa.com; 'Paul Barkiewicz'; 'Richard Golb'

**CC:** 'Rose Schlueter'

**Subject:** Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

All,

I have scheduled this conference call for Friday, July 12 at 1:00 p.m.

Call-in information is as follows:

800-██████ pass code ██████

If you have any questions, please let me know.

Sincerely,

~Karen

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Karen Clark [mailto:[kclark@westlandswater.org](mailto:kclark@westlandswater.org)]

**Sent:** Tuesday, June 18, 2013 11:25 AM

**To:** 'James Watson'; Craig Manson; Bernhardt, David L.; caikens@ycwa.com; Paul Barkiewicz; Richard Golb

**Cc:** Karen Clark; Rose Schlueter

**Subject:** Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

All,

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~Karen

Karen Clark

Executive Assistant to Thomas W. Birmingham

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(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

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**From:** Tom Birmingham [mailto:[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)]

**Sent:** Saturday, June 15, 2013 9:05 AM

**To:** 'Karen Clark'

**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'

**Subject:** Conference Call

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Thank you,  
Tom

**From:** Bernhardt, David L.  
**Sent:** Friday, June 28, 2013 11:40 AM  
**To:** Karen Clark  
**Subject:** Re: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

Is this pacific time?

David Bernhardt  
[REDACTED]

**David Longly Bernhardt**  
**Brownstein Hyatt Farber Schreck, LLP**  
1350 I Street, NW, Suite 510  
Washington, DC 20005  
202.872.5286 tel  
[REDACTED] cell  
[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)

To ensure compliance with requirements imposed by the IRS, we inform you that any federal tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for purposes of (i) avoiding penalties under the Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any transaction or tax-related matter addressed herein.

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On Jun 24, 2013, at 1:20 PM, "Karen Clark" <[kclark@westlandswater.org](mailto:kclark@westlandswater.org)> wrote:

All,

I have scheduled this conference call for Friday, July 12 at 1:00 p.m.

Call-in information is as follows:

800-[REDACTED] pass code [REDACTED]

If you have any questions, please let me know.

Sincerely,

*~Karen*  
Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559 [REDACTED]  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

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**From:** Karen Clark [<mailto:kclark@westlandswater.org>]

**Sent:** Tuesday, June 18, 2013 11:25 AM

**To:** 'James Watson'; Craig Manson; Bernhardt, David L.; [caikens@ycwa.com](mailto:caikens@ycwa.com); Paul Barkiewicz; Richard Golb

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**Sent:** Saturday, June 15, 2013 9:05 AM

**To:** 'Karen Clark'

**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'

**Subject:** Conference Call

Karen,

During a meeting yesterday with representatives of Yuba County Water Agency it was suggested that a conference call with the people copied on this email be scheduled so that we can discuss development of a strategy to obtain regulatory assurances in connection with a potential water acquisition from the agency. Please schedule that call for sometime next week.

Thank you,



Tom

**From:** Karen Clark  
**Sent:** Sunday, June 30, 2013 6:11 PM  
**To:** 'Bernhardt, David L.'  
**Subject:** RE: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

Hello David,

Yes, 1:00 p.m. PST.

~Karen

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Bernhardt, David L. [mailto:DBernhardt@BHFS.com]  
**Sent:** Friday, June 28, 2013 11:40 AM  
**To:** Karen Clark  
**Subject:** Re: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

Is this pacific time?

David Bernhardt  
[REDACTED]

**David Longly Bernhardt**  
**Brownstein Hyatt Farber Schreck, LLP**  
1350 I Street, NW, Suite 510  
Washington, DC 20005  
202.872.5286 tel  
[REDACTED] cell  
[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)

To ensure compliance with requirements imposed by the IRS, we inform you that any federal tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for purposes of (i) avoiding penalties under the Internal Revenue Code, or (ii) promoting, marketing or recommending to another party any transaction or tax-related matter addressed herein.

STATEMENT OF CONFIDENTIALITY & DISCLAIMER: The information contained in this email message is attorney privileged and confidential, intended only for the use of the individual or entity named above. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copy of this email is strictly prohibited. If you have received this email in error, please notify us immediately by replying and delete the message. Thank you.

On Jun 24, 2013, at 1:20 PM, "Karen Clark" <[kclark@westlandswater.org](mailto:kclark@westlandswater.org)> wrote:

All,

I have scheduled this conference call for Friday, July 12 at 1:00 p.m.

Call-in information is as follows:

800-██████ pass code ██████

If you have any questions, please let me know.

Sincerely,

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559 ██████  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Karen Clark [<mailto:kclark@westlandswater.org>]  
**Sent:** Tuesday, June 18, 2013 11:25 AM  
**To:** 'James Watson'; Craig Manson; Bernhardt, David L.; [caikens@ycwa.com](mailto:caikens@ycwa.com); Paul Barkiewicz; Richard Golb  
**Cc:** Karen Clark; Rose Schlueter  
**Subject:** Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

All,

Tom will be on vacation next week so please email me your availability for a conference call on the following dates:

July 1

July 2

July 3

July 5

July 8

July 9

July 10

July 12

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056

Fresno, CA 93710

(c) 559 [REDACTED]

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Tom Birmingham [<mailto:tbirmingham@westlandswater.org>]

**Sent:** Saturday, June 15, 2013 9:05 AM

**To:** 'Karen Clark'

**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'

**Subject:** Conference Call

Karen,

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Thank you,  
Tom

**From:** Bernhardt, David L.  
**Sent:** Sunday, June 30, 2013 6:14 PM  
**To:** Karen Clark  
**Subject:** Re: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

Thank you.

David Bernhardt  
202-████-████ (cell)

**David Longly Bernhardt**  
**Brownstein Hyatt Farber Schreck, LLP**  
1350 I Street, NW, Suite 510  
Washington, DC 20005  
202.872.5286 tel  
████ cell  
[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)

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On Jun 30, 2013, at 9:12 PM, "Karen Clark" <[kclark@westlandswater.org](mailto:kclark@westlandswater.org)> wrote:

Hello David,

Yes, 1:00 p.m. PST.

*~Karen*  
Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

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**From:** Bernhardt, David L. [mailto:[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)]  
**Sent:** Friday, June 28, 2013 11:40 AM  
**To:** Karen Clark  
**Subject:** Re: Conference Call Re: Yuba County Water Agency Regulatory Assurances Strategy

Is this pacific time?

David Bernhardt

[REDACTED]

**David Longly Bernhardt**  
**Brownstein Hyatt Farber Schreck, LLP**  
1350 I Street, NW, Suite 510  
Washington, DC 20005  
202.872.5286 tel  
[REDACTED] cell  
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Call-in information is as follows:

800-[REDACTED] pass code [REDACTED]

If you have any questions, please let me know.

Sincerely,

*~Karen*  
Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Karen Clark [<mailto:kclark@westlandswater.org>]  
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**To:** 'James Watson'; Craig Manson; Bernhardt, David L.; [caikens@ycwa.com](mailto:caikens@ycwa.com); Paul Barkiewicz; Richard Golb  
**Cc:** Karen Clark; Rose Schlueter  
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July 1

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July 5

July 8

July 9

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July 12

*~Karen*

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Tom Birmingham [<mailto:tbirmingham@westlandswater.org>]

**Sent:** Saturday, June 15, 2013 9:05 AM

**To:** 'Karen Clark'

**Cc:** 'James Watson'; 'Craig Manson'; 'Bernhardt, David L.'; 'Curt Aikens'; 'Paul M. Bartkiewicz'; 'Richard Golb'

**Subject:** Conference Call

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Thank you,

Tom

**From:** Karen Clark

**Sent:** Monday, July 1, 2013 1:31 PM

**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'

**Subject:** Reminder for PR/Legislation Conference Calls for July

Everyone,

This is a reminder that we will have a PR/Legislation Conference Call on July 5, July 19 and July 26. We will NOT have a call on July 12.

If you have any questions, please feel free to contact me on my cell at [REDACTED].

Sincerely,

*~Karen*

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) [REDACTED]

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)



**From:** Ed Manning  
**Sent:** Monday, July 1, 2013 1:35 PM  
**To:** 'Karen Clark'  
**CC:** Carolyn Jensen  
**Subject:** RE: Reminder for PR/Legislation Conference Calls for July

Karen: Please let Tom know I will not be available July 5<sup>th</sup>. Thanks

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Monday, July 01, 2013 1:31 PM  
**To:** Alan Elias; Alison MacLeod; Carmela McHenry; Carolyn Jensen; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; Doug Subers; Ed Manning; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; Michael Burns; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'  
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Sincerely,

~Karen

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) [REDACTED]  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Minerva, Julie  
**Sent:** Monday, July 1, 2013 1:36 PM  
**To:** kclark@westlandswater.org  
**Subject:** Re: Reminder for PR/Legislation Conference Calls for July

Thanks Karen.

---

**From:** Karen Clark <kclark@westlandswater.org>  
**To:** Alan Elias <aelias@mercuryllc.com>; 'Alison MacLeod' <amacleod@ka-pow.com>; 'Carmela McHenry' <cmchenry@ka-pow.com>; 'Carolyn Jensen' <cjensen@ka-pow.com>; Catherine Karen <ckaren@sidley.com>; Cheryl Faunce <cfaunce@cwdc.com>; 'David Bernhardt' <dbernhardt@BHFS.com>; Cardoza, Dennis; Denny Rehberg <drehberg@mercuryllc.com>; 'Doug Subers' <dsubers@ka-pow.com>; 'Ed Manning' <emanning@ka-pow.com>; Woodward, Erica; Erick Mullen <emullen@mercuryllc.com>; 'Gayle Holman' <gholman@westlandswater.org>; 'Jason Peltier' <jpeltier@westlandswater.org>; 'Joe Findaro' <joe.findaro@akerman.com>; Minerva, Julie; MargaretAnn Corbett <mac@cwdc.com>; 'Mike Burns' <mburns@ka-pow.com>; Costigan, Richard; 'Susan Ramos' <sramos@westlandswater.org>; 'Tony Coelho' <tony@onewharf.com>  
**Sent:** Mon Jul 01 16:31:21 2013  
**Subject:** Reminder for PR/Legislation Conference Calls for July

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Sincerely,

~Karen

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) [REDACTED]

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

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---

**From:** Gayle Holman  
**Sent:** Monday, July 1, 2013 1:40 PM  
**To:** 'Karen Clark'  
**Subject:** RE: Reminder for PR/Legislation Conference Calls for July

Thanks Karen. I was wondering about this Friday—you answered that. Also, I will remind you again as we get closer; I won't be on the Friday, July 26<sup>th</sup> call—Wisdom Teeth extraction morning for my daughter. We got the first appointment of the day at 7:00 AM... ☹

Gayle

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Monday, July 1, 2013 1:31 PM  
**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'  
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Sincerely,

~Karen

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Karen Clark  
**Sent:** Monday, July 1, 2013 1:44 PM  
**To:** 'Gayle Holman'  
**Subject:** RE: Reminder for PR/Legislation Conference Calls for July

Don't worry, Gayle. Carolyn and I will fill you in on the details.

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Gayle Holman [mailto:[gholman@westlandswater.org](mailto:gholman@westlandswater.org)]  
**Sent:** Monday, July 01, 2013 1:40 PM  
**To:** 'Karen Clark'  
**Subject:** RE: Reminder for PR/Legislation Conference Calls for July

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Gayle

---

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**Sent:** Monday, July 1, 2013 1:31 PM  
**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'  
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Sincerely,

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) [REDACTED]

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Carmela McHenry  
**Sent:** Monday, July 1, 2013 2:46 PM  
**To:** Karen Clark (kclark@westlandswater.org)  
**Subject:** RE: Reminder for PR/Legislation Conference Calls for July

Hi Karen:

Hope your Monday is going well and you are staying out of this heat and keeping cool.

Ed just informed me that he will not be participating on the July 5<sup>th</sup> and July 19<sup>th</sup> calls. He will be out of the office and out of the country.

He will be attending the call on July 26<sup>th</sup> and I've updated his calendar accordingly. If you have any questions, please let me know. Have a great day!

Thank you,

Carmela

*Carmela McHenry*  
(Direct) 916-498-7711  
(Fax) 916-448-4923

---

**From:** Karen Clark [<mailto:kclark@westlandswater.org>]  
**Sent:** Monday, July 01, 2013 1:31 PM  
**To:** Alan Elias; Alison MacLeod; Carmela McHenry; Carolyn Jensen; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; Doug Subers; Ed Manning; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; Michael Burns; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'  
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Sincerely,

~Karen

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) [REDACTED]  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Karen Clark  
**Sent:** Monday, July 1, 2013 2:49 PM  
**To:** 'Carmela McHenry'  
**Subject:** RE: Reminder for PR/Legislation Conference Calls for July

Hello Carmela,

I don't think I'm very successful staying cool, but I don't think anyone is these days. Whew!

Thanks for letting us know when Ed will be unavailable. I'll let Tom know.

Hope all is well with you!

~Karen

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Carmela McHenry [mailto:[cmchenry@ka-pow.com](mailto:cmchenry@ka-pow.com)]  
**Sent:** Monday, July 01, 2013 2:46 PM  
**To:** Karen Clark ([kclark@westlandswater.org](mailto:kclark@westlandswater.org))  
**Subject:** RE: Reminder for PR/Legislation Conference Calls for July

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Thank you,

Carmela

*Carmela McHenry*  
(Direct) 916-498-7711  
(Fax) 916-448-4923

---

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**To:** Alan Elias; Alison MacLeod; Carmela McHenry; Carolyn Jensen; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; Doug Subers; Ed Manning; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason

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Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) [REDACTED]

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)



**From:** Jason Peltier

**Sent:** Tuesday, July 2, 2013 6:59 AM

**To:** Joe Findaro; Dennis Cardoza; David Bernhardt

**Subject:** Subpoena spotlights Southern California water district's projects with Calderon ties - Capitol and California - The Sacramento Bee

Top of A1 today...

<http://www.sacbee.com/2013/07/01/5538540/subpoena-spotlights-southern-california.html>

**From:** Tom Birmingham

**Sent:** Tuesday, July 9, 2013 11:48 AM

**To:** 'Denny Rehberg'; 'Cardoza, Dennis'; 'Bernhardt, David L.'; joe.findaro@akerman.com; 'Tony Coelho'; 'Karen, Catherine'

**CC:** 'Karen Clark'

**Subject:** Face-to-Face Meeting

Ladies and Gentlemen,

I have the impression that the next few weeks will be critical to our legislative effort. I suggest that we conduct another face-to-face meeting within the next few days so that you can share your collective thoughts. If the meeting is conducted in David Bernhardt's office, I will be able to participate by video conference. Denny, can you ask someone in your office to schedule the meeting? Please have your staff work with Karen Clark, who can put the meeting on my calendar.

I know that this is a big imposition on your time, but I thought the last meeting was very productive. Please include other people on your respective staffs.

Thank you,  
Tom

**From:** Karen, Catherine  
**Sent:** Tuesday, July 9, 2013 1:31 PM  
**To:** DRehberg@mercuryllc.com  
**CC:** DCardoza@manatt.com; DBernhardt@BHFS.com; joe.findaro@akerman.com; tony@onewharf.com; kclark@westlandswater.org  
**Subject:** Re: Face-to-Face Meeting

I can do the 1:30. Thank you.

----- Original Message -----

From: Denny Rehberg [<mailto:DRehberg@mercuryllc.com>]  
Sent: Tuesday, July 09, 2013 02:20 PM Central Standard Time  
Cc: Cardoza, Dennis <DCardoza@manatt.com>; Bernhardt, David L. <DBernhardt@BHFS.com>; joe.findaro@akerman.com <joe.findaro@akerman.com>; Tony Coelho <tony@onewharf.com>; Karen, Catherine; Karen Clark <kclark@westlandswater.org>  
Subject: Re: Face-to-Face Meeting

Hello all. Could you email back your availability to meet tomorrow in the offices of Brownstein Hyatt etc. So far the preference is 11:30-12:30, and 1:30-2:30.

Denny

Sent from my iPad

On Jul 9, 2013, at 2:48 PM, "Tom Birmingham" <tbirmingham@westlandswater.org> wrote:

> Ladies and Gentlemen,

>

> I have the impression that the next few weeks will be critical to our legislative effort. I suggest that we conduct another face-to-face meeting within the next few days so that you can share your collective thoughts. If the meeting is conducted in David Bernhardt's office, I will be able to participate by video conference. Denny, can you ask someone in your office to schedule the meeting? Please have your staff work with Karen Clark, who can put the meeting on my calendar.

>

> I know that this is a big imposition on your time, but I thought the last meeting was very productive. Please include other people on your respective staffs.

>

> Thank you,

> Tom

>

>

-----  
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\*\*\*\*\*

**From:** Cardoza, Dennis

**Sent:** Tuesday, July 9, 2013 1:51 PM

**To:** tbirmingham@westlandswater.org; drehberg@mercuryllc.com; DBernhardt@BHFS.com; joe.findaro@akerman.com; tony@onewharf.com; ckaren@Sidley.com

**CC:** kclark@westlandswater.org

**Subject:** Re: Face-to-Face Meeting

Hi Tom,

I'm in California and would be happy to participate. Will need call in info. Dennis

----- Original Message -----

From: Tom Birmingham <tbirmingham@westlandswater.org>

To: 'Denny Rehberg' <DRehberg@mercuryllc.com>; Cardoza, Dennis; 'Bernhardt, David L.' <DBernhardt@BHFS.com>; joe.findaro@akerman.com <joe.findaro@akerman.com>; 'Tony Coelho' <tony@onewharf.com>; 'Karen, Catherine' <ckaren@Sidley.com>

Cc: 'Karen Clark' <kclark@westlandswater.org>

Sent: Tue Jul 09 14:48:29 2013

Subject: Face-to-Face Meeting

Ladies and Gentlemen,

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Tom

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<http://www.manatt.com/Expertise.aspx?id=4870>

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**From:** Karen Clark  
**Sent:** Tuesday, July 9, 2013 1:55 PM  
**To:** 'Cardoza, Dennis'  
**Subject:** RE: Face-to-Face Meeting

Hi Dennis,

I believe they are participating by video conference. What city are you in?

~Karen  
Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: kclark@westlandswater.org

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**From:** Cardoza, Dennis  
**Sent:** Tuesday, July 9, 2013 1:59 PM  
**To:** kclark@westlandswater.org  
**CC:** Woodward, Erica  
**Subject:** Re: Face-to-Face Meeting

Los Angeles. May be able to set that up. Dennis

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From: Karen Clark <kclark@westlandswater.org>  
To: Cardoza, Dennis  
Sent: Tue Jul 09 16:54:42 2013  
Subject: RE: Face-to-Face Meeting

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**From:** Woodward, Erica  
**Sent:** Tuesday, July 9, 2013 2:05 PM  
**To:** kclark@westlandswater.org  
**Subject:** RE: Face-to-Face Meeting

Hi Karen,

I am going to work with our Tech folks here about getting Dennis ready for the call. Is it 10:30am PST? Do you know any of the video conference/tech specifics?

Many thanks,  
Erica

Erica Woodward  
Legislative Coordinator  
Manatt, Phelps & Phillips, LLP  
700 12th Street, NW, Suite 1100  
Washington, DC 20005-4075  
(202) 585-6500 Main  
(202) 585-6634 Direct  
(202) 585-6600 Main Fax  
EWoodward@manatt.com

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Executive Assistant to Thomas W. Birmingham Westlands Water District  
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**From:** Karen Clark  
**Sent:** Tuesday, July 9, 2013 2:15 PM  
**To:** 'Woodward, Erica'  
**Subject:** RE: Face-to-Face Meeting

Hello Erica,

You need to contact Emilio at Kronick, Moskovitz, Tiedemann & Girard - 916.832.1421. He has already spoken with another secretary from Brownstein (Liz). We thought this would only be a two-way video conference but since Dennis is joining the call, you need to tell Emilio that we need to add another I.P. address. (I'm not calling because now there are too many cooks in the kitchen :) Anyway, if you could call him directly and tell him that the video is now going to be a three-way conversation, I think he will be able to work out all the details. If you have trouble with any of this, call me on my cell any time - [REDACTED]

~Karen  
Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) [REDACTED]  
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(202) 585-6634 Direct  
(202) 585-6600 Main Fax  
EWoodward@manatt.com

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#####

#####

**From:** Jason Peltier  
**Sent:** Friday, July 12, 2013 9:11 AM  
**To:** Joe Findaro; David Bernhardt; Tony Coelho; Denny Rehberg  
**Subject:** Fwd: SLDMWA - updates/current issues  
**Attachments:** Untitled attachment 33621.pdf; Untitled attachment 33624.htm

FYI

Begin forwarded message:

**From:** Ara Azhderian <[ara.azhderian@sldmwa.org](mailto:ara.azhderian@sldmwa.org)>  
**Date:** July 12, 2013, 8:23:50 AM PDT  
**To:** Dan Nelson <[dan.nelson@sldmwa.org](mailto:dan.nelson@sldmwa.org)>, Alfredo Medina <[amedina@manatt.com](mailto:amedina@manatt.com)>, Che Salinas <[csalinas@manatt.com](mailto:csalinas@manatt.com)>, "Dennis Cardoza " <[DCardoza@manatt.com](mailto:DCardoza@manatt.com)>, Greg Zlotnick <[greg.zlotnick@sldmwa.org](mailto:greg.zlotnick@sldmwa.org)>, Jason Peltier <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)>, Jon Rubin <[Jon.Rubin@sldmwa.org](mailto:Jon.Rubin@sldmwa.org)>, Julie Minerva <[jminerva@manatt.com](mailto:jminerva@manatt.com)>, McKay <[mcarney@manatt.com](mailto:mcarney@manatt.com)>, "Richard Costigan " <[rcostigan@manatt.com](mailto:rcostigan@manatt.com)>  
**Subject:** RE: SLDMWA - updates/current issues

FYI... Yesterday the San Luis & Delta-Mendota Water Authority and Westlands Water District issued a 60 day notice of intent to sue on the Trinity flows for Klamath.

ara

-----Original Appointment-----

**From:** Dan Nelson  
**Sent:** Tuesday, July 02, 2013 2:57 PM  
**To:** Dan Nelson; Alfredo Medina; Ara Azhderian; Che Salinas; Dennis Cardoza ; Greg Zlotnick; Jason Peltier; Jon Rubin; Julie Minerva; McKay; Richard Costigan  
**Subject:** SLDMWA - updates/current issues  
**When:** Friday, July 12, 2013 8:30 AM-9:15 AM (UTC-08:00) Pacific Time (US & Canada).  
**Where:** 1/866. [REDACTED], conference code: [REDACTED]





Eric N. Robinson

916.321.4500  
erobinson@kmtg.com

July 11, 2013

The Honorable Sally Jewell  
Secretary of the Interior  
Department of the Interior  
1849 C Street, N.W.  
Washington, D.C. 20240  
**(VIA FEDERAL EXPRESS)**

David Murillo, Regional Director  
Mid-Pacific Region  
U.S. Bureau of Reclamation  
2800 Cottage Way, Mail Code MP-100  
Sacramento CA 95825-1898  
**(HAND DELIVERED)**

Michael L. Connor, Commissioner  
U.S. Bureau of Reclamation  
1849 C Street, N.W., Mail Code 91-00000  
Washington, D.C. 20240  
**(VIA FEDERAL EXPRESS)**

Re: 60-Day Notice of Violations of the Endangered Species Act

Dear Secretary Jewell, Commissioner Connor and Regional Director Murillo:

This letter is to provide each of you with notice of violations of the federal Endangered Species Act ("ESA"), pursuant to section 11(g) of the ESA, 16 U.S.C. section 1540(g). These violations arise from the failure to complete ESA section 7 consultation on the effects to listed species and their critical habitat from using releases of Central Valley Project ("CVP") water from the Trinity River Division ("TRD") to augment flows in the Lower Klamath River in August and September this year.

On December 19, 2000, Secretary of the Interior Bruce Babbitt approved a Record of Decision ("ROD") specifying amounts of CVP water to be released from the TRD in different hydrologic year types for the restoration, propagation and maintenance of the mainstem Trinity River's fall-run Chinook salmon fishery. The Hoopa Valley Tribe concurred in the ROD's fishery flow release schedule, which became permanent and final under section 3406(b)(23) of the Central Valley Project Improvement Act (CVPIA) (Pub. L. 102-525 [October 1992]). As we have explained in previous correspondence, the proposed releases for fishery purposes are unlawful for multiple reasons, including that they will cause the total volume of releases for fishery purposes in 2013 to exceed the 453,000 acre-foot limit established by the ROD. This letter focuses on the violations of the ESA associated with the proposed releases.

The ROD was approved based, in part, on two biological opinions. On October 12, 2000, the National Marine Fisheries Service ("NMFS") issued its "Biological Opinion for the

Trinity River Mainstem Fishery Restoration EIS and its Effects on Southern Oregon/Northern California Coast Coho Salmon, Sacramento River Winter-run Chinook Salmon, Central Valley Spring-run Chinook Salmon, and Central Valley Steelhead” (“NMFS BiOp). The NMFS BiOp concluded, among other things, that release of CVP water from the TRD to carry out the ROD’s fishery flow release schedule was likely to adversely affect Sacramento River winter-run Chinook salmon, which are listed as endangered. The NMFS BiOp did not analyze the ROD’s effects on green sturgeon, which was listed as threatened in 2006 (71 Fed. Reg. 17757 [April 7, 2006]; *see* 74 Fed. Reg. 52300 [October 9, 2009])[designating critical habitat]).

On October 12, 2000, the U.S. Fish and Wildlife Service (“FWS”) issued its “Reinitiation of Formal Consultation Biological Opinion of the Effects of Long-term Operation of the Central Valley Project and State Water Project as Modified by Implementing the Preferred Alternative in the Draft Environmental Impact Statement/Environmental Impact Report for the Trinity River Mainstem Fishery Restoration Program and Request for Consultation on the Implementation of this Alternative on the Threatened Northern Spotted Owl, Northern Spotted Owl Critical Habitat, and the Endangered Bald Eagle within the Trinity River Basin, and Where Applicable, Central Valley Reservoirs” (“FWS BiOp”). The FWS BiOp concluded, among other things, that release of CVP water from the TRD to carry out the ROD’s fishery flow release schedule was likely to adversely affect Delta smelt, which are listed as threatened.

The existing biological opinions did not analyze the effects of supplemental releases in August and September on listed species. The U.S. Bureau of Reclamation’s (“Reclamation”) augmentation of flows in the Lower Klamath River in August and September by releasing more CVP water from the TRD than is authorized by the ROD’s flow release schedule is likely to adversely affect listed species, including winter-run Chinook salmon, and to adversely modify their designated habitat. These releases will result in unusually high and cold flows in the Trinity River in August and September, conditions that these species would not experience under natural conditions, nor under the typical flow regime since operations of the TRD began, or under the flow regimes analyzed for the ROD.

Further, these releases will diminish the resources available to maintain water temperatures for listed species in the Trinity River and the Sacramento River. Using additional CVP water from the TRD to augment Lower Klamath River flows in these months without prior completion of ESA section 7 consultation would be unlawful. Furthermore, using additional CVP water from the TRD to augment Lower Klamath River flows without an incidental take statement resulting from prior completion of section 7 consultation addressing the effects of such releases on listed species would violate the take prohibition of ESA section 9. Before making the proposed August and September releases, Reclamation must initiate and complete ESA section 7 consultation regarding the effects of such releases on any and all listed species in the Trinity River and Sacramento River watersheds that may be affected by such an action.

U.S. Department of the Interior  
U.S. Bureau of Reclamation  
July 11, 2013  
Page 3

This notice is on behalf of the San Luis & Delta-Mendota Water Authority ("Authority") and Westlands Water District ("Westlands") (collectively, "Contractors"), and the water users and communities within their service areas who depend on reliable water supply deliveries from the CVP. The Authority is a joint powers authority formed pursuant to California Government Code section 6500 *et seq.*, consisting of 29 member public agencies that contract with the Bureau of Reclamation ("Reclamation") for water supply from the CVP. The CVP water delivered to the Authority's members is used within areas of San Joaquin, Stanislaus, Merced, Fresno, Kings, San Benito, and Santa Clara counties, California. Westlands is a California water district formed pursuant to California Water Code section 34000 *et seq.* Westlands is a member of the Authority. Westlands provides water to an area of approximately 600,000 acres in Fresno and Kings Counties on the western side of the San Joaquin Valley.

Thank you for your attention to this matter. The Contractors would welcome an opportunity to meet and discuss your agencies' willingness to avoid or rectify the violations described above. If you are interested in doing so, please contact Dan Nelson or Tom Birmingham.

Sincerely,

KRONICK, MOSKOVITZ, TIEDEMANN & GIRARD  
A Law Corporation



Eric N. Robinson  
Attorneys for the San Luis & Delta-Mendota Water  
Authority and the Westlands Water District

ENR/tw

cc: Dan Nelson (SLDMWA)  
Thomas Birmingham (WWD)

1032716 | 10355 004



**From:** Jason Peltier

**Sent:** Friday, July 19, 2013 9:08 AM

**To:** Tom Birmingham; Dan. Nelson@sldmwa. org; Dennis Cardoza; joe. findaro@akerman. com; David Bernhardt

**Subject:** LATimes on Fed comments

# Environmental documents for proposed delta project criticized

## Federal agencies reviewing draft for proposal to re-plumb the Sacramento-San Joaquin Delta call it 'insufficient' and 'biased.'

By Bettina Boxall

July 18, 2013, 8:37 p.m.

Federal agencies reviewing draft environmental documents for the state's proposal to re-plumb the Sacramento-San Joaquin Delta are criticizing the work as "insufficient," "biased" and "confusing."

The federal comments suggest it's going to be tough for the state to meet its self-imposed deadline of releasing the draft this October for official public comment, an important step in moving the [project](#) forward.

In what would be the biggest water supply project constructed in California in half a century, the state is proposing to build a large diversion point on the Sacramento River in the north delta and send the water through two 35-mile tunnels to aqueducts serving the San Joaquin Valley and Southern California.

By adding the diversion point and restoring more than 100,000 acres of delta habitat, the south-of-the-delta urban and agricultural water contractors who have promised to pay for much of the project are hoping to get relief from environmental restrictions on their deliveries.

The project, estimated to cost about \$24 billion, must pass muster with federal fishery agencies that oversee endangered species protections for migrating salmon and the delta's imperiled native fish.

In response to previous federal comments, the state reduced the number of river intakes and agreed to propose initial operating rules for the project that would increase flows in the delta — giving contractors less water than they want. If the restoration efforts succeed in improving conditions for delta fish, the rules could be changed to allow for more water exports under the project's adaptive management program.

But judging by the latest round of comments, [posted online](#) Thursday by the state Natural Resources Agency, federal biologists still aren't satisfied.

The [National Marine Fisheries Service](#), which oversees protection for salmon that migrate through the delta, called the environmental draft "currently insufficient" and said it "will need to be revised."

The fisheries agency faulted the draft for arriving at "seemingly illogical conclusions" in some sections or lacking analysis to back up a conclusion.

In one part of the lengthy draft, "both the language and the content ... are advocating for the project and could be perceived as biased," the fisheries service wrote.

The U.S. Fish and Wildlife Service, which oversees protections for the delta smelt and other native fish, also spotted pro-project bias in the draft, which was prepared by a consultant and is supposed to present an objective overview of the proposal's environmental effects.

Citing one paragraph, fish and wildlife said the wording amounted to "unjustified advocacy." Other comments called the document "very difficult to read" and cited "factual and analytical errors."

Repeating earlier criticisms, federal biologists also said the assumed benefits of restoration were unproven.

In a statement, Natural Resources Deputy Secretary Jerry Meral said his agency was confident "that all the issues raised in the comments can be successfully resolved in the coming months."

"It is important to remember that regulatory agencies by their nature do not give out 'gold stars' for work, but road maps for improvement," Meral said. "We will continue to follow that map."

---

**From:** Clare Foley <[cfoley@farmwater.org](mailto:cfoley@farmwater.org)>  
**Date:** Fri, 19 Jul 2013 08:39:40 -0700  
**To:** Brandon Souza <[bsouza@agwatercouncil.org](mailto:bsouza@agwatercouncil.org)>  
**Subject:** la times for NL

<http://www.latimes.com/news/local/la-me-delta-water-20130719,0,1641780.story>

Clare Foley  
Director of Social Media  
California Farm Water Coalition  
[cfoley@farmwater.org](mailto:cfoley@farmwater.org)  
[916-391-5030](tel:916-391-5030)

Sent from my iPad

Food Grows Where Water Flows

Mike Wade  
California Farm Water Coalition  
6133 Freeport Boulevard, 2nd Floor  
Sacramento, CA 95822  
(916) 391-5030  
(916) 391-5044 FAX

[www.farmwater.org](http://www.farmwater.org)  
[www.facebook.com/calfarmwater](http://www.facebook.com/calfarmwater)  
[www.twitter.com/farmwater](http://www.twitter.com/farmwater)

On Jul 18, 2013, at 12:18 PM, "Mike Henry" <[mhenry@farmwater.org](mailto:mhenry@farmwater.org)> wrote:

Reminder----Friday's conference call is scheduled for 9 a.m. Dial-in information is:

Dial-in: 866- [REDACTED]

Passcode: [REDACTED]

Possible items for discussion:

1. BDCP - recap Wednesday public meeting
2. Trinity update - Ara
3. Other

Please reply with any other agenda items to be added.

Mike Henry  
Assistant Executive Director  
California Farm Water Coalition  
6133 Freeport Blvd., 2nd Floor  
Sacramento, CA 95822  
(916) 391-5030  
[mhenry@farmwater.org](mailto:mhenry@farmwater.org)

Food Grows Where Water Flows





**From:** Karen Clark

**Sent:** Friday, July 26, 2013 2:02 PM

**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'

**Subject:** Salmon Apocalypse Media Release

**Attachments:** Salmon Apocalypse Media Release-1.pdf

All,

Here is another document I'm sending on behalf of Jason Peltier.

*~Karen*

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)



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1982



**AQUALLIANCE**  
DEFENDING NORTHERN CALIFORNIA WATERS

July 25, 2013

For Immediate Release

## **Salmon Apocalypse Looming in California**

*Poor Government Policy Could Doom Record Runs*

Recent reports of a pending salmon die-off on the Klamath River don't address the full measure of this rapidly evolving and potentially catastrophic story.

"A record run of salmon are at risk on the Klamath unless anticipated flows from Trinity Reservoir are provided to cool the Lower Klamath River," said Tom Stokely, an analyst for the California Water Impact Network (C-WIN), a statewide water advocacy group. "But we have another disaster unfolding on the Sacramento River. We had a dry winter, the reservoirs are low, and federal and state officials are draining them rapidly to pump water to the corporate farms of the western San Joaquin Valley. If the current releases continue, we're not going to have enough cold water in the Sacramento system to keep fall-run Chinook salmon eggs alive in the gravel this fall."

Like the Klamath, the Sacramento River system is expected to post a very good year for Chinook salmon, with several hundred thousand fish returning to the river and its tributaries.

"And these are big magnificent fish, some of the fattest I've ever seen," said Dan Bacher, editor of the Fish Sniffer Magazine. "But I was just out on the river, and it was running extremely high – and that's heartbreaking. High water now means the cold water pools in Shasta, Folsom and Oroville reservoirs could be exhausted by the time the returning fish spawn. The mature fish, their eggs and any fry that manage to emerge could cook in the low, warm flows we'll probably see in the American, Feather and Sacramento rivers by late summer and fall."

The Sacramento River is the workhorse of the salmon-bearing streams south of the Columbia River. In good years, almost a million fish used to return to the Sacramento system. The river is unique in that it supports four distinct runs of Chinook salmon. The winter-run and spring-run are both listed under the U.S. Endangered Species Act, while the fall-run and late fall-run are sufficiently numerous in most years to accommodate the commercial and sport fisheries.

All four runs are now in dire jeopardy. The spring-run Chinook is facing an especially tough summer, particularly in Butte Creek, its primary stronghold. There was a major die-off of Butte Creek salmon in 2003 due to low flows.

"We desperately hope that there isn't a repeat of the 2003 spring-run salmon deaths on Butte Creek," said Jim Brobeck, a water policy analyst at AquAlliance, an organization dedicated to protecting the waters and fisheries of northern California. "At this time, the fish agencies are managing to keep thousands of spring-run alive with flows from PG&E's reservoir, although another concentrated heat wave could radically change conditions for this iconic salmon run."

Brobeck noted Butte Creek's spring-run is a genetic rarity, and the source for re-stocking efforts on the San Joaquin River. It is thus essential, he said, to preserve the unique strains of salmon native to the Sacramento watershed.

"The potential fish deaths due to lack of water and warm temperatures on Butte Creek combined with the demand for Klamath, Trinity, Feather and Sacramento River irrigation deliveries threatens the existence of what remains of native fish runs in the Central Valley," Brobeck says. "State and Federal agencies must redefine the 'surplus water' that is being pumped to industrial agriculture south of the Delta."

Low flows could also prove the death-knell for the winter-run Chinook, said Bill Jennings, executive director of the California Sportfishing Protection Alliance.

"We're only in a second dry year, not even a declared drought, and the system is fundamentally broken," said Jennings. "The State Water Board has assured the Department of Water Resources and U.S. Bureau of Reclamation that it won't enforce Delta water quality and flow standards. The temperature compliance point on the Sacramento has been moved upstream, eliminating crucial spawning habitat for endangered Winter-run Chinook salmon."

But the Sacramento's "bread-and-butter" runs – the fall-run and late fall-run – are also at risk. Their status is so imperiled by anticipated low summer flows that future salmon seasons could be curtailed, said Stokely. Like Jennings, Stokely says agency mismanagement of water resources is the major reason for the crisis.

"What's particularly disturbing is the determination of state and federal agencies to violate their own mandates and regulations so they can maintain deliveries of subsidized water to a handful of huge corporate farms in the western San Joaquin Valley," said Stokely.

Stokely notes various laws and regulations require sufficient cold water flows down the Sacramento system to maintain fisheries in good health.

"But in May, the U.S. Bureau of Reclamation and the state Department of Water Resources asked the Water Board to allow lower Delta outflows so more water could be sent south of the Delta," said Stokely. "The Water Board agreed without due process, in violation of its own rules water right decisions – and with full knowledge of the impacts to the fish. "

Jennings observes the crisis could have been avoided if the cold water behind California's reservoirs had been properly conserved.

"Water is only legally available for south-of-Delta export after Delta flow and water quality standards are met," Jennings said. "But the state and federal projects are still exporting more than 8,500 cfs from the South Delta"

Stokely concluded that the situations on the Klamath and the Sacramento are culminating in a potential apocalypse for California salmon.

"We had a huge salmon kill on the Klamath in 2002 due to low flows, but that could be minor compared to what we're facing today," he said. "It is a terrible irony. We're seeing some of the biggest runs on record, and we could lose them all -- and lose future runs -- because of compromised government policy. If we're going to avoid a repeat of 2002, we need to start conserving cold water now for release later in the summer and fall."

#

Contacts:

Tom Stokely, California Water Impact Network 530-926-9727 cell 524-0315 <http://www.c-win.org>

Bill Jennings, California Sportfishing Protection Alliance 209-464-5067 cell 938-9053 [www.calsport.org](http://www.calsport.org)

Jim Brobeck, AquAlliance 530-521-4880 [www.aqualliance.net](http://www.aqualliance.net)

Dan Bacher, Fish Sniffer Magazine 916-725-0728 [www.fishsniffer.com](http://www.fishsniffer.com)

**From:** Bernhardt, David L.

**Sent:** Wednesday, July 31, 2013 5:58 PM

**To:** Weaver, Kiel

**CC:** Birmingham, Thomas (tbirmingham@westlandswater.org); Ungerecht, Todd

**Subject:** Re: sorry to bother you, but i need some delta smelt kill numbers by biologists for a question to FWS tomorrow at 10am

Kiel: I don't have numbers for 2012, but here is a brushback if he responds.

Response:

Mr. Ashe: It is my understanding that field sampling activities of the Interagency Ecological Program (IEP) for the Sacramento-San Joaquin Estuary are authorized to take up to **33,480** individuals of delta smelt annually. This level of authorized take stands in stark contrast to the 167, 124 and 211 **adult** delta smelt that were authorized to be taken in the respective three years (2009, 2010, 2011) for the coordinated operations of the Central Valley Project and the State Water Project. More larva and juvenile smelt were authorized those numbers are below.

Incidental Take Statement Limit: Adult Delta Smelt (annual limit)

Year	Limit
2009	167
2010	124
2011	211

Incidental Take Statement Limit: Larval and Juvenile Delta Smelt (monthly limits, April – July)

Year	April	May	June	July	Total
2009	10	449	1139	1292	2890
2010	7	332	842	955	2136
2011	12	567	1436	1630	3645

David Bernhardt

██████████ (cell)

**David Longly Bernhardt**

**Brownstein Hyatt Farber Schreck, LLP**

1350 I Street, NW, Suite 510

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202.872.5286 tel

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[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)

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On Jul 31, 2013, at 8:15 PM, "Weaver, Kiel" <[Kiel.Weaver@mail.house.gov](mailto:Kiel.Weaver@mail.house.gov)> wrote:

David, you will recognize the question. Do we have numbers in case ashe tries to turn it around on the questioner?

## **Killing Delta Smelt to “Save” Them**

*To Mr. Ashe:*

California is facing a very tough water situation this year and perhaps a worse one next year. The July 15<sup>th</sup> edition of the Wall Street Journal pointed out in an editorial that in California’s Central Valley quote “more smelt are captured by biologists conducting population surveys each year than are trapped by pumps.” unquote.

Is it true that biologists have the authority to actually take more delta smelt than water projects that meet the water needs of millions of people? (*yes*).

Could you protect more smelt by stopping surveys that harm them, which according to the Wall Street Journal, quote “officials at California's Natural Resources Agency tell us aren't reliable anyway?” unquote

Have you considered limiting surveys to help the smelt and Californians and providing water users more relief?

**From:** Weaver, Kiel  
**Sent:** Thursday, August 1, 2013 5:20 AM  
**To:** 'Bernhardt, David L.'  
**CC:** Birmingham, Thomas (tbirmingham@westlandswater.org); Ungerecht, Todd  
**Subject:** RE: sorry to bother you, but i need some delta smelt kill numbers by biologists for a question to FWS tomorrow at 10am

Very helpful. thanks

---

**From:** Bernhardt, David L. [mailto:DBernhardt@BHFS.com]  
**Sent:** Wednesday, July 31, 2013 8:58 PM  
**To:** Weaver, Kiel  
**Cc:** Birmingham, Thomas (tbirmingham@westlandswater.org); Ungerecht, Todd  
**Subject:** Re: sorry to bother you, but i need some delta smelt kill numbers by biologists for a question to FWS tomorrow at 10am

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Year	April	May	June	July	Total
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---

David Bernhardt  
[REDACTED] (cell)

**David Longly Bernhardt**  
**Brownstein Hyatt Farber Schreck, LLP**  
1350 I Street, NW, Suite 510  
Washington, DC 20005

202.872.5286 tel

cell

[DBernhardt@BHFS.com](mailto:DBernhardt@BHFS.com)

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Is it true that biologists have the authority to actually take more delta smelt than water projects that meet the water needs of millions of people? (yes).

Could you protect more smelt by stopping surveys that harm them, which according to the Wall Street Journal, quote “officials at California's Natural Resources Agency tell us aren't reliable anyway?” unquote

Have you considered limiting surveys to help the smelt and Californians and providing water users more relief?

**From:** Tom Birmingham  
**Sent:** Thursday, August 1, 2013 5:24 AM  
**To:** Kiel Weaver  
**CC:** Tom Birmingham; David Bernhardt  
**Subject:** Fwd: FMWT data  
**Attachments:** Updated delta smelt footprint\_2-11-13v2.xlsx

Kiel,

The attached chart has actual numbers of smelt taken for various purposes.

I hope this is helpful.

Tom

>



Take of larval and adult delta smelt from IEP surveys, as reported to the IEP-ESA website by 2/8/13.

Prepared 2-8-13, K. Souza

Gray shaded cells indicates that sampling has terminated or no longer under the IEP permit.

## Adults

Survey	Year									
	PEN	2005	2006	2007	2008	2009	2010	2011	2012	2013
Fall Midwater Trawl	3	28	39	27	21	10	76	344	47	
Townet Survey	7	120	83	45			2	318	28	
SF Bay Study	11	85	21	64	45	20	49	180	95	2
20mm	33			2	1	2	5	8	63	
Yolo Bypass	47	4	17	4	26	88	21	30	147	17
Broodstock Collections	49	2297	2418		70	23	80			
Delta Juvenile Fish Monitoring	53	761	954	245	119	136	445	956	710	53
New Technologies and Release Sites, Element 2 (Electrofishing)	55				2					
Indicators to Predict Adverse Effects to Salvaged Delta Smelt	56	64								
Fish Predation in the CHTR Phase	57	19								
Acute Mortality Associated with CHTR	58		28							
Directed Fish Collections	66	5	371	4						
Upper estuary zooplankton	77							2		
Investigation of Antioch and Pittsburg Power Plants	87				2	14	0	0		
Spring Kodiak Trawl	88	1311	473	708	339	671	659	445	1204	
Morrow Island Distribution	90	2	1							
UCD Suisun Marsh	93	2	1	3	1	5	1	22	10	
Smelt Larva Survey	96		1			2		2	10	
Mossdale Spring Trawl	100						1			
Fish Community Monitoring	113			3	3	8	20	9		
Effects of Largemouth Bass on Delta Ecosystem	133						5			
Pilot Mark-recap to Estimate Pre-screen Loss and Salvage Efficiency	140				189	10				
Smelt Migration Study (AKA First Flush)*	187						659		822	
Gear Efficiency Evaluation in Support of Delta Smelt Modeling	249								721	
TOTAL		4698	4407	1105	818	989	2023	2316	3857	72

\*Smelt Migration sampling in year 2010 includes one day of sampling in 2011

## Larvae and juveniles

Survey	Year									
	PEN	2005	2006	2007	2008	2009	2010	2011	2012	2013
Fall Midwater Trawl	3					10				
Townet Survey	7			10	82	49	198	470	246	
South Delta fish investigations	17	8		277						
20mm	33	659	978	135	274	435	833	1162	1076	
Delta Juvenile Fish Monitoring	53	14								
Directed Fish Collections	66			2						
Upper estuary zooplankton	77			2	17		11	3		
Investigation of Antioch and Pittsburg Power Plants	87				17	10	1	1		
Spring Kodiak Trawl	88	26					1		1	
Morrow Island Distribution	90			1						
Smelt Larva Survey	96		79	274			6	3	238	
Fish Community Monitoring	113				22					
Pilot Mark-recap to Estimate Pre-screen Loss and Salvage Efficiency	140					111				
TOTAL		707	1057	701	412	615	1050	1639	1561	

# All life stages combined

Survey	Year								
	PEN	2005	2006	2007	2008	2009	2010	2011	2012
Fall Midwater Trawl	3	28	39	27	21	20	76	344	47
Townet Survey	7	120	83	55	82	49	200	788	274
SF Bay Study	11	85	21	64	45	20	49	180	95
South Delta Fish Investigations	17	8		277					
20mm	33	659	978	137	275	437	838	1170	1139
Yolo Bypass	47	4	17	4	26	88	21	30	17
Broodstock Collections	49	2297	2418		70	23	80		
Delta Juvenile Fish Monitoring	53	775	954	245	119	136	445	956	710
New Technologies and Release Sites, Element 2 (Electrofishing)	55				2				
Indicators to Predict Adverse Effects to Salvaged Delta Smelt	56	64							
Fish Predation in the CHTR Phase	57	19							
Acute Mortality Associated with CHTR	58		28						
Directed Fish Collections	66	5	371	6					
Upper estuary zooplankton	77			2	17		11	5	
Investigation of Antioch and Pittsburg Power Plants	87				19	24	1	1	
Spring Kodiak Trawl	88	1337	473	708	339	671	660	445	1205
Morrow Island Distribution	90	2	1	1					
UCD Suisun Marsh	93	2	1	3	1	5	1	22	10
Smelt Larva Survey	96		80	274		2	6	5	248
Mossdale Spring Trawl	100						1		
Fish Community Monitoring	113			3	25	8	20	9	
Effects of Largemouth Bass on Delta Ecosystem	133						5		
Pilot Mark-recap to Estimate Pre-screen Loss and Salvage Efficiency	140				189	121			
Smelt Migration Experiment (AKA First Flush)	187						659		822
Gear Efficiency Evaluation in Support of Delta Smelt Modeling	249								721
TOTAL		5405	5464	1806	1230	1604	3073	3955	5418

**From:** Weaver, Kiel  
**Sent:** Thursday, August 1, 2013 5:25 AM  
**To:** 'Tom Birmingham'  
**CC:** David Bernhardt  
**Subject:** RE: FMWT data

Perfect. thanks

-----Original Message-----

From: Tom Birmingham [<mailto:tbirmingham@westlandswater.org>]  
Sent: Thursday, August 01, 2013 8:24 AM  
To: Weaver, Kiel  
Cc: Tom Birmingham; David Bernhardt  
Subject: Fwd: FMWT data

Kiel,

The attached chart has actual numbers of smelt taken for various purposes.

I hope this is helpful.

Tom

>

**From:** Weaver, Kiel  
**Sent:** Thursday, August 1, 2013 5:31 AM  
**To:** 'Tom Birmingham'  
**CC:** David Bernhardt  
**Subject:** RE: FMWT data

Thanks. I hope these questions get asked:

Killing Delta Smelt to "Save" Them

To Mr. Ashe:

You mentioned that the Endangered Species Act has happened alongside robust and sustained economic development. The residents of the San Joaquin Valley, where unemployment reached 40% due to man-made drought caused by Delta smelt pumping restrictions, beg to differ.

California is facing a very tough water situation this year and perhaps a worse one next year. The July 15th edition of the Wall Street Journal pointed out in an editorial that in California's Central Valley quote "more smelt are captured by biologists conducting population surveys each year than are trapped by pumps." unquote. In fact, federal and state biologists killed 2,316 endangered smelt in 2011, yet the incidental take limit for pumping water to humans in that year was 211.

Is it true that your biologists have the authority to actually take more delta smelt than water projects that meet the water needs of millions of people? (yes).

Could you protect more smelt by stopping surveys that harm them, which according to the Wall Street Journal, quote "officials at California's Natural Resources Agency tell us aren't reliable anyway?" unquote

Have you considered limiting surveys to help the smelt and Californians and providing water users more relief?

-----Original Message-----

From: Tom Birmingham [<mailto:tbirmingham@westlandswater.org>]  
Sent: Thursday, August 01, 2013 8:24 AM  
To: Weaver, Kiel  
Cc: Tom Birmingham; David Bernhardt  
Subject: Fwd: FMWT data

Kiel,

The attached chart has actual numbers of smelt taken for various purposes.

I hope this is helpful.

Tom

>

**From:** Jason Peltier  
**Sent:** Thursday, August 1, 2013 8:51 AM  
**To:** Joe Findaro; David Bernhardt; Dennis Cardoza  
**Subject:** PPIC survey

Here is a link to survey results from PPIC on CA attitudes on climate change...

[http://www.ppic.org/content/pubs/survey/S\\_713MBS.pdf](http://www.ppic.org/content/pubs/survey/S_713MBS.pdf)

**From:** Weaver, Kiel

**Sent:** Friday, August 2, 2013 1:46 PM

**To:** Birmingham, Thomas (tbirmingham@westlandswater.org); David Bernhardt ([REDACTED])

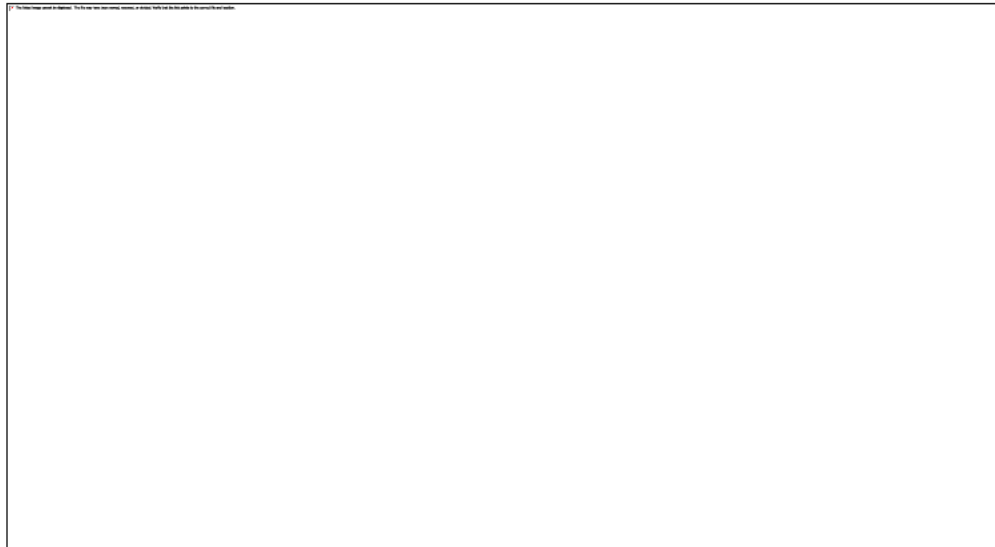
**Subject:** McClintock vs. Ashe

Tom and David,

Thanks for your help with the question on smelt. As you will watch from the video, Dan Ashe tried to say that the incidental take is much higher since it is part of an "index". McClintock was a little frustrated with Ashe's response and wanted me to circle back with you guys to see whether Ashe's statement is true and to then pin him down on a question for the record that he cannot dispute. Help.



**NaturalResourcesGOP** has shared a video with you  
on YouTube



**McClintock**

by NaturalResourcesGOP



**From:** Jason Peltier

**Sent:** Saturday, August 10, 2013 2:02 PM

**To:** Tom Birmingham; Dan Nelson; Ara. Azhderian@sldmwa. org; Jon Rubin; B Walthall (bwalthall@kcwa. com); Roger K' Patterson; Mike Wade (mwade@farmwater. org); Joan Maher (JMaher@valleywater. org); Sheila Greene; Craig Manson (cmanson@westlandswater. org); Carolyn Jensen (cjensen@ka-pow. com); Karen Clark; joe. findaro@akerman. com; David Bernhardt; Tony Coelho; Dennis Cardoza

**Subject:** History

**Attachments:** filename-1.pdf

>  
>



# Reclamation bureau office elevates Bakersfield native

Bakersfield native Jason E. Peltier has been named special assistant to the regional director, office of public affairs, at the U.S. Bureau of Reclamation office in Sacramento.

Peltier, 32, will serve as special assistant to Mid-Pacific Regional Director David Houston.

The office operates water projects in parts of Nevada, Oregon and California, including the Central Valley Project.

"The bureau is fortunate to have a person with such a solid understanding of the reclamation program, its impact on the water users, the environment and the public," Houston said.

"Peltier's extensive background in agriculture and Western water issues makes him highly qualified for this position," he said.

In his new post, Peltier will oversee the bureau's public affairs office. He also will continue to serve as regional liaison officer, a position he has held since 1983.

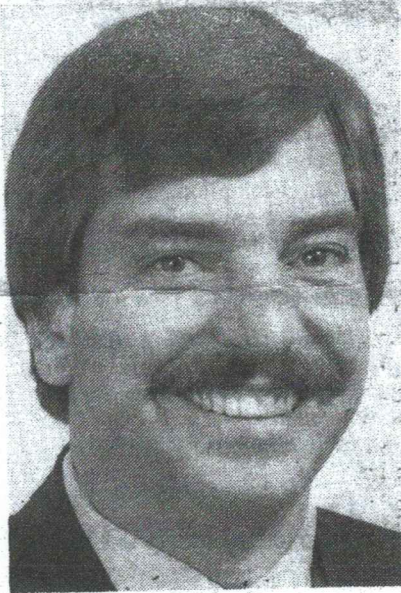
As liaison officer, he has communicated the bureau's policies and programs to water users, agricultural and environmental organizations, and the U.S. Congress and the state legislature.

In a phone interview, Peltier said the key issues confronting the regional office include the agricultural drainage problem in the San Joaquin Valley, marketing an annual 1 million acre-feet in surplus water and developing additional water conveyance systems in the Sacramento-San Joaquin delta.

Peltier was raised in Weedpatch by his aunt and uncle, Jack and Mary Lou Thomson, who farm cotton, grapes and other crops near Arvin and Buttonwillow.

He graduated from Arvin High School in 1973 and enrolled at California State University at Chico.

While in college, he served as



**Jason E. Peltier**

...named special assistant

student body class president and as the systemwide student trustee on the state university system board of trustees. In 1979, he was awarded a bachelor's degree in agricultural business with a minor in economics.

He managed a San Diego County farm for a year after graduating from college, then joined the California Grain and Feed Association in 1980 as assistant manager and lobbyist in Sacramento.

Former U.S. Sen. S.I. Hayakawa, R-Calif., hired Peltier as his agricultural assistant in 1981, a position he held for two years.

He worked as a consultant to the reclamation bureau headquarters in Washington, D.C., briefly in 1983, and was later hired as liaison officer in the agency's regional office in Sacramento. He is a recent graduate of the California Agricultural Leadership Program.

A BUCK IN THE HAND IS WORTH MORE  
THAN A GARAGE FULL OF JUNK.  
CALL CLASSIFIED NOW 327-2141

The  
Bakersfield Californian

**From:** Bernhardt, David L.  
**Sent:** Saturday, August 10, 2013 2:32 PM  
**To:** Jason Peltier  
**Subject:** Re: History

Thanks. You were a child when they let you into the Bureau.

David Longly Bernhardt  
Brownstein Hyatt Farber Schreck, LLP  
1350 I Street, NW, Suite 510  
Washington, DC 20005  
202.872.5286 tel  
[REDACTED] cell  
DBernhardt@BHFS.com

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On Aug 10, 2013, at 5:04 PM, "Jason Peltier" <jpeltier@westlandswater.org> wrote:

>  
>>  
>>  
> <filename-1.pdf>

**From:** Jason Peltier

**Sent:** Monday, August 12, 2013 11:20 AM

**To:** 'Alan Elias'; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'Cheryl Faunce'; 'David Bernhardt'; 'Dennis Cardoza'; 'Denny Rehberg'; 'Doug Subers'; 'Ed Manning'; 'Erica Woodward'; 'Erick Mullen'; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; 'Julie Minerva'; 'MargaretAnn Corbett'; 'Mike Burns'; 'Richard Costigan'; 'Susan Ramos'; 'Tony Coelho'; T Birmingham

**Subject:** Fresno County letter and article

**Attachments:** WaterCrisis Support LTR.PDF

# Letter seeking Delta-pumping bill support exposes sticky water politics

by John Ellis on August 9, 2013

To Fresno County Supervisor Phil Larson, it was the easiest vote in the world.

He wanted his colleagues to approve sending a letter to Sen. Dianne Feinstein, asking her support a House resolution that seeks more Sacramento-San Joaquin Delta water for the Valley's west side.

But, as with so much else in politics, the request turned out to be anything but simple.



*Phil Larson*

Larson's initial motion passed 3-0 — but Supervisors Andreas Borgeas and Debbie Poochigian abstained. They wanted the mull it over and, for Borgeas, to check with other members of the Valley's congressional delegation before backing the letter.

The bill has been introduced by Fresno Democrat Jim Costa. But Borgeas noted that in the past few years Tulare Republican Devin Nunes had also introduced legislation that would increase delta pumping — including one last year that passed the House but died in the Senate.

Larson was frustrated. How could politics seep into a request so simple?

The board, he felt, should support all efforts — be they Republican or Democrat — to bring more water to the Valley's west side.

Still, he agreed to the delay — just a few hours until the afternoon.

At issue is Costa's H.R. 1927, which would tweak existing management plans — known as biological opinions — covering threatening Delta smelt and endangered salmon to allow more pumping.



*Andreas Borgeas*

Johnny Amaral, Nunes' chief-of-staff, says Nunes' 2009 effort was almost identical to Costa's, but Costa's people say the current effort is more nuanced in that it wouldn't eliminate the biological opinions.

Nunes' 2009 effort would have suspended the biological opinions and set pumping levels at 100% of the contracted amounts annually. Democrats controlled the House at the time. The effort went nowhere.

But Nunes had better luck last year, with the Republicans in control. He succeeded in passing an ambitious, pro-agriculture water bill that would have significantly increased water deliveries to the Valley's west side.

Both Feinstein and fellow California Sen. Barbara Boxer, however, were opposed to the legislation. It died in the Senate.

"The fact of the matter is if Democrats in the House and Senate actually cared about a reliable water supply, they would have supported language to allow the pumps to run when it was offered in 2009," Amaral said.



*Rep. Devin Nunes*

"It's all just a big game to them, playing to their radical environmentalist pals. To quote Yogi Berra, it's 'deja vu all over again.' Except now, communities and families are being devastated for no good reason. It's time for the Senate to follow the leadership displayed in the House and do something useful — for once."



For starters, he said the Senate should pass its own legislation so both sides can have a starting position for negotiations. Costa's bill messes that up, he said, because it changes the House's already established position.

"It's like we're negotiating with ourselves right now," he said.

Costa has a different outlook. His strategy is for the House to pass something that has a chance to get through the Senate. He believes his current bill does that.

Which brings it all back around to the Fresno County Supervisors.



*Rep. Jim Costa*

They reconvened Tuesday afternoon and debated just what the letter to Feinstein should say.

Borgeas' suggestion was that it say the board supports not only Costa's current bill, but recognize other efforts, too, including ones "approved by the House but that have not yet been approved by the Senate."

It is important, Borgeas said, to give recognition to Nunes' efforts.

Supervisor Henry R. Perea then chimed in, saying that language went too far and "starts making it partisan."

So the specific reference to being "approved by the House" but "not yet approved by the Senate" was eliminated, and the final wording only referenced current and past efforts to increase westside water deliveries.

The letter was finally approved — 5-0.



# County of Fresno

## BOARD OF SUPERVISORS

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District Three

Vice-Chairman  
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District Two

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**Judith G. Case**  
District Four

**Deborah A. Poochigian**  
District Five

**Bernice E. Seidel**  
Clerk

August 7, 2013

The Honorable Dianne Feinstein  
United States Senate  
331 Hart Senate Office Building  
Washington, DC 20510

RE: Water Crisis Facing Fresno County

Dear Senator Feinstein:

The Fresno County Board of Supervisors is very concerned that the County is facing a repeat of the disaster suffered in 2009 resulting from a 10% allocation to Central Valley Project ("CVP") water service contractors that serve water to farmers in western Fresno County. As a result of reduced water supplies in 2009 more than 300,000 acres of land in Fresno County were fallowed, tens-of-thousands of farm workers lost their jobs, disadvantaged communities experienced unemployment rates in excess of 40%, the poor were forced to stand for hours in food lines, the Fresno County Sheriff reported an increase in crime, including domestic violence, and there was an increase in mental health problems. This situation cannot be allowed to repeat itself.

Congressman Jim Costa has introduced H.R. 1927, the More Water and Security for Californians Act. If enacted, as currently written this legislation would:

- Provide congressional direction concerning application of the Endangered Species Act to the CVP and the State Water Project ("SWP");
- Restore operational flexibility to California's two major water projects; and
- Provide reasonable protection to threatened species.

We hope that you will introduce similar legislation.

Westlands Water District has projected that if California has average precipitation in October, November, December, and January, the initial allocation for CVP water service contractors next year will be zero, and if the remainder of the winter and spring is dry or average, the final allocation will be from zero to 10%. We understand that the Bureau of Reclamation has confirmed this analysis. This projection is already affecting western Fresno County's agricultural industry. Farmers, who are currently planning next year's farming operations, are deciding to not plant row crops, such as fall lettuce, tomatoes, and garlic. Additionally, many farmers are struggling to find financing for their operations



because lenders are reluctant to make loans in the light of inadequate water supplies. These decisions will undoubtedly affect the most vulnerable residents of western Fresno County in ways that are identical to impacts in 2009.

**This disaster is avoidable.** If in 2014 the CVP is allowed to operate as it did in 2010 and 2012, which were average water years, farmers could reasonably expect to get a 40% - 45% allocation if we have an average water year. The legislation Mr. Costa has introduced would allow this to happen by prescribing operational rules that are nearly identical to operations that occurred in 2010 and 2012. Moreover, if enacted, as currently written this legislation would enable the Bureau to forecast operations that would allow it to make a higher allocation earlier in the year because it would not face the unknown of how the biological opinions will apply to operations of the CVP Delta pumping plant. For example, under the existing biological opinion for Delta smelt, management of reverse flow in Old and Middle Rivers can range from -1250 cubic feet per second to -5000 cubic feet per second during the period from December through the end of June. With this uncertainty, the Bureau has to wait until the end of May or June to make the higher allocations which is too late for planting.

It must also be noted that the operations of the CVP that occurred in 2010 and 2012 did not place the threatened or endangered fish at any risk. In fact, those operations were consistent with the existing biological opinions, and Mr. Costa's legislation would direct that the CVP and the SWP to be operated in way that has provided adequate protection for fish. The only exception is that the inflow/export ratio imposed by the Salmon biological opinion in April and May would not apply. However, when the National Academy of Sciences reviewed this fishery action in response to your request that the Academy review the efficacy of the biological opinions, the Academy raised significant questions about the need for this action. Specifically, the Academy described the influence of rates of export on salmonid survival rates as "weak."

We are aware of all that you have done over the course of the last two decades to ensure that farmers on the westside of the San Joaquin Valley would have enough water to farm and to put people to work. We know, for example, that the Delta-Mendota Canal, California Aqueduct Intertie was constructed and is being operated under legislation that you introduced, that achieving a 45% allocation in 2010 was a result of your intervention with the Department of the Interior, and that legislation you authored has facilitated numerous water transfers to westside farmers. Your leadership on this issue has helped sustain irrigated agriculture in western Fresno County and other parts of the San Joaquin Valley. But we fear that those actions have not been enough. Without immediate, further action, the people who live and work in western Fresno County will experience needless suffering of the type experienced in 2009.

We also are aware that introducing legislation that provides congressional direction concerning application of the Endangered Species Act to the CVP and the SWP will be vigorously opposed by environmental organizations as an attack on the Act itself. But we are prepared to support you if you determine that taking on this "heavy lift" is required to avoid that needless human suffering.

THE HONORABLE DIANNE FEINSTEIN

August 7, 2013

Page 3

We absolutely need legislation that will restore some sanity to achieving a reasonable balance between meeting the needs of the environment and the needs of our people. Worth noting is that we support this effort and others, that have or maybe introduced. We look forward to working with you and encourage you to work with our entire Valley delegation to bring resolution on this vitally important issue.

Sincerely,



Henry Perea, Chairman  
Supervisor, District 3

Sincerely,



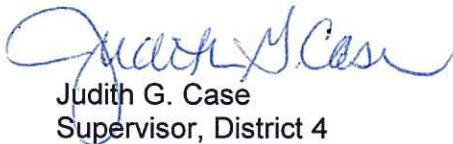
Andreas Borgeas, Vice-Chairman  
Supervisor, District 2

Sincerely,



Phil Larson, Supervisor  
Supervisor, District 1

Sincerely,



Judith G. Case  
Supervisor, District 4

Sincerely,



Deborah A. Poochigian  
Supervisor, District 5

cc: Federal Delegation  
Charlotte Hrcir, Federal Legislative Advocate



**From:** Paul M. Bartkiewicz

**Sent:** Wednesday, August 14, 2013 6:40 PM

**To:** Tom Birmingham; Steve Hirsch; Jim Watson; Craig Manson; David Bernhardt

**CC:** Rich Golb; Curt Aikens

**Subject:** Fwd: Federal Court Order in YCWA v. NMFS

**Attachments:** Untitled attachment 24070.pdf; Untitled attachment 24073.htm; Release District Court Ruling August 2013.docx; Untitled attachment 24076.htm

Gentlemen,

Here is YCWA's press release and summary. Best regards, Paul

Sent from my iPad

Paul M. Bartkiewicz

Bartkiewicz, Kronick & Shanahan

Attorneys at Law

1011 22nd Street

Sacramento CA 95822

Office: 916-446-4254

Cell: [REDACTED]

[pmb@bkslawfirm.com](mailto:pmb@bkslawfirm.com)



REMY | MOOSE | MANLEY

LLP

**YCWA v. NMFS (CIVIL CASE NO. 2:13-cv-00042-MCE-CKD)**

SUMMARY OF COURT'S MEMORANDUM AND ORDER ISSUED AUGUST 13, 2013 (DOC. NO. 74)

**YUBA COUNTY WATER AGENCY**

**Summary of Court's Order in Litigation Challenging NMFS's Biological Opinion on the Corps' Operation and Maintenance of Dams on the Lower Yuba River**

**Court's Order.** On August 13, 2013, Chief Judge Morrison C. England, Jr., issued a "Memorandum and Order" (Order) presenting the Court's rulings on Federal Defendants' Motion for Voluntary Remand or Stay in *Yuba County Water Agency v. National Marine Fisheries Service*, as well as other motions in the related case *South Yuba River Citizens League v. NMFS* (Case No. 2:13-cv-00056-MCE-EFB). The Order granted the Federal Defendants' request for stay of proceedings in both cases until a new Biological Opinion (BiOp) is issued, concluding that it would be inefficient to continue litigation on the 2012 BiOp and its Reasonable and Prudent Alternative (RPA) measures in light of the fact that the Army Corps of Engineers (Corps) and NMFS have already reinitiated consultation under the Endangered Species Act (ESA) Section 7 to produce a new BiOp, which will likely supersede the 2012 BiOp.

The Order granted the stay, however, subject to these conditions:

- (1) The Corps is required to submit to NMFS a final biological assessment by October 22, 2013;
- (2) NMFS is required to issue a final BiOp by May 12, 2014;
- (3) During the pendency of the stay, NMFS is prohibited from citing or relying on the 2012 BiOp or its RPA measures in any Federal Energy Regulatory Commission (FERC) relicensing proceedings that involve YCWA, NID and PG&E;
- (4) NMFS is also prohibited from directly or indirectly relying on the 2012 BiOp or any of its provisions for purposes of establishing the environmental baseline in any consultations regarding YCWA, NID and PG&E FERC relicensing proceedings; and
- (5) The Corps is required to continue to implement certain measures within its authority that benefit ESA-listed species, including maintaining fish ladders at Daguerre Point Dam, placing 5,000 tons of gravel in the lower Yuba River for spawning habitat, completing the salmonid redd surveys specified in the 2012 BiOp and placing large woody material between Englebright and Daguerre Point Dams.

Additionally, the Court denied South Yuba River Citizens League's motion for a preliminary injunction that would have required the Corps to implement the 2012 BiOp's RPA measures, concluding that there was no evidence that these RPA measures were necessary to avoid irreparable harm to the listed species during the period of the stay. The Court also denied as moot, without prejudice to being reinitiated when the stays are lifted, motions for partial summary judgment in both cases.

**Implications for YCWA and Other Parties.** Although the Court granted the stay, the Order is clear that the Court will strictly enforce the deadline for the issuance of a new BiOp. After a new BiOp is issued on or before May 12, 2014, the stays will automatically be lifted. At that time, YCWA and the parties in the two cases may file renewed motions for summary judgment or other motions as necessary.

YCWA 8/14/2013

**YCWA v. NMFS (CIVIL CASE NO. 2:13-cv-00042-MCE-CKD)**  
SUMMARY OF COURT'S MEMORANDUM AND ORDER ISSUED AUGUST 13, 2013 (DOC. NO. 74)

YCWA and Plaintiff-Intervenors were successful in demonstrating to the Court the potential harm that YCWA, NID and PG&E would suffer in FERC relicensing proceedings if NMFS were allowed to continue to cite or rely on the 2012 BiOp and RPA during the stay. Accordingly, the Order includes the above-referenced conditions that prohibit NMFS from relying on the 2012 BiOp and RPA.

The Corps and taxpayers benefit from the Court's denial of SYRCL's motion for preliminary injunction because the Court refused to order implementation of the 2012 BiOp's RPA, which contains measures that could harm the ESA-listed species, that are not reasonably related to the Corps' proposed action and for which the Corps lacks the authority or budget to accomplish. For example, implementing fish passage at Englebright Dam would likely have cost taxpayers hundreds of millions of dollars.

**Next Steps.** YCWA remains committed to working with NMFS and other Yuba watershed stakeholders to achieve the multiple goals of water resources management on the Yuba River, i.e., water supply, flood control, hydroelectric power generation and fisheries protection and enhancement. YCWA worked tirelessly to engage NMFS in several collaborative processes to resolve the legal and technical deficiencies in the 2012 BiOp and RPA. Unfortunately NMFS chose not to implement these changes and the litigation became necessary. YCWA reserves its right to challenge the new BiOp if NMFS again fails to utilize the best available science, fails to utilize consistent analysis protocols or fails to provide opportunities for timely consultation with affected participants.





August 14, 2013

Contact: Curt Aikens (530) 701-6800

### **Federal Court Directs NMFS to Issue a New Biological Opinion for the U.S. Army Corps of Engineers' Operations on the Yuba River**

**Marysville** – The United States District Court for the Eastern District of California directed the National Marine Fisheries Service (NMFS) yesterday to issue a new “biological opinion” by May 12, 2014 for the U.S. Army Corps of Engineers’ (Corps) operation and maintenance of two debris control dams on the Lower Yuba River (Daguerre Point Dam and Englebright Dam). The court also directed NMFS to not rely on the disputed 2012 biological opinion while it prepares a new opinion. The court’s decision arises from a legal challenge to the legal and technical adequacy of the 2012 biological opinion brought by Yuba County Water Agency (YCWA), Pacific Gas and Electric Company (PG&E), Nevada Irrigation District (NID), the State Water Project contractors and several Yuba County irrigation districts.

“We are pleased that the Court recognized the need for a new biological opinion that is based on good science and legal precedent,” stated YCWA General Manager Curt Aikens.

In the August 12<sup>th</sup> ruling, Judge Morrison C. England Jr. determined that it would be inefficient to continue litigation on the 2012 biological opinion and its Reasonable and Prudent Alternative measures in light of the fact that the Corps and NMFS have already reinitiated consultation under the Endangered Species Act to produce a new biological opinion, which will likely supersede the 2012 opinion.

Aikens added, “I am hopeful NMFS takes this opportunity to embrace a collaborative, science-based process to improve salmon and steelhead habitat in the Yuba River. We’ve worked tirelessly to engage NMFS, and only resorted to litigation as a last recourse.”

The court also directed the Corps to continue its successful efforts to improve salmon and steelhead habitat in the Yuba River. In response to a request by YCWA and other parties, the court directed NMFS “...not to directly or indirectly rely on the 2012 BiOp or any of its provisions...” in actions related to the ongoing relicensing applications to the Federal Energy Regulatory Commission by YCWA, PG&E and NID for hydroelectric projects in the Yuba River watershed.

See [www.ycwa.com](http://www.ycwa.com) for additional information on the court’s ruling and the disputed biological opinion.

**Richard K. Golb**

PacificComm LLC

201 NE Park Plaza Drive Ste 269

Vancouver WA 98684

360.397.0248

360.326.1551 (fax)

**From:** David Bernhardt  
**Sent:** Thursday, August 15, 2013 10:21 AM  
**To:** Jason Peltier  
**Subject:** Fwd: From Greenwire -- CALIFORNIA: Water officials propose redesign for Bay Delta tunnels

FYI

Begin forwarded message:

**From:** "[dbernhardt@bhfs.com](mailto:dbernhardt@bhfs.com) by E&E Publishing" <[email\\_this@eenews.net](mailto:email_this@eenews.net)>  
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## **CALIFORNIA: Water officials propose redesign for Bay Delta tunnels (Thursday, August 15, 2013)**

The California Department of Water Resources has proposed a redesign of water diversion tunnels planned for the Sacramento-San Joaquin River Delta.

According to officials, the new plan, a part of the Bay Delta Conservation Plan, would shift the tunnels away from the towns of Courtland and Walnut Grove. It also would create a much smaller water-storage reservoir that would be located 10 miles south of the Stone Lakes National Wildlife Refuge.

The new design also would have fewer muck disposal areas on private land, instead using state-owned land in Sacramento County.

The plan was meant to appease nearby residents, who had complained of the old proposal's potential to affect their lives.

"I hope this indicates that we are serious about doing our best to reduce impacts to delta residents," DWR Director Mark Cowin said.

But the new design does not come without some concerns. The proposal now includes tunnels that pass under Staten Island, which is protected by conservation easements and is owned by the Nature Conservancy. It also

includes muck disposal areas on the island, which could affect the greater sandhill crane, a threatened species under California law.

"It's very, very troubling and may even be a disaster for sandhill cranes," said Mike Savino, president of Save Our Sandhill Cranes. "I hope and pray there's an alternative or that the law doesn't allow it" (Matt Weiser, [Sacramento Bee](#), Aug. 15). -- JE

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**From:** Jason Peltier

**Sent:** Friday, August 23, 2013 4:51 PM

**To:** Ara Azhderian; D Nelson; Jon Rubin; Sheila Greene; Joe Findaro; David Bernhardt

**Subject:** Fwd: 08.23.13 Notice No. 403

**Attachments:** 08.23.13 Notice No. 403.pdf; Untitled attachment 45250.htm

Begin forwarded message:

**From:** "Westlands Water District" <[notices@westlandswater.org](mailto:notices@westlandswater.org)>

**To:** "[employees@westlandswater.org](mailto:employees@westlandswater.org)" <[employees@westlandswater.org](mailto:employees@westlandswater.org)>

**Subject:** 08.23.13 Notice No. 403

Please see attached notice for important information

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## Westlands Water District

3130 N. Fresno Street, P.O. Box 6056, Fresno, California 93703-6056, (559) 224-1523, FAX (559) 241-6277

August 23, 2013

Dear Westlands Growers and Landowners,

Yesterday, August 22, 2013, the United States District Court issued an order dissolving the temporary restraining order and denying the District's motion for a preliminary injunction to enjoin the Bureau of Reclamation from making releases from the Trinity Division of the Central Valley Project to supplement flow in the lower Klamath River. Generally there are four elements that a court must evaluate in deciding whether to issue a preliminary injunction, and each of those elements was addressed by the District Court.

1. Likelihood of Success on The Merits. The District Court found that the District is likely to succeed on the merits of its claim, based on the National Environmental Policy Act, that in issuing the decision to release additional water, Reclamation violated NEPA because it failed to adequately evaluate the potential environmental impacts resulting from that action. The District Court declined to decide on the merits of the District's remaining two claims, under Central Valley Project Improvement Act sections 3406(b)(23) and 3411(a), essentially saying these are complicated issues requiring more time to address.

2. Likely Irreparable Harm to Plaintiffs. The District Court found farmers and others in the District will likely suffer irreparable harm from the loss of water supply.

3. Balance of Hardships. The court found against the District on the balance of hardships. Reclamation's original projection that it would release 62,000 acre-feet has been reduced by a combination of the temporary restraining order (which avoided a week of releases) and by higher than expected flow in the Klamath River. Reclamation's current estimate is that it will release 20,000 acre-feet to supplement flow in the lower Klamath. In addition, the District Court heard testimony from the other side's experts about the risk of another fish die-off and the supposed benefits of supplemental flow. Balancing the two impacts, the District Court gave more weight to avoiding a fish die-off.

4. Public Interest. The District Court found that the public interest favored allowing the supplemental flow in light of its reduced impact on storage in the Trinity Division.

This is a very disappointing outcome, as we had hoped that the District Court would issue an injunction. However, the temporary restraining order did save some water already and, provided that flow in the Klamath River remains at current levels and there is no disease outbreak, the water cost of this action will be significantly lower than 62,000 acre-feet Reclamation estimated originally.

The District believes it has strong arguments on the merits, and with a more deliberative briefing schedule, the District Court will ultimately rule in its favor on the two CVPIA claims, as well as the NEPA claim. The District's objective is to obtain a ruling on these claims before April 2014, when Reclamation will next decide how to allocate Trinity Record of Decision flows.

The District wants to thank all of the individuals who offered declarations to establish the harm that would result from the release of water to provide supplemental flow. These declarations were instrumental in obtaining the temporary restraining order, which had the effect of saving approximately 40,000 acre-feet.

The District will diligently press ahead with this litigation.

Thank you,

Thomas W. Birmingham  
General Manager

No. 403



**From:** Jason Peltier  
**Sent:** Tuesday, September 3, 2013 12:42 PM  
**To:** Joe Findaro; David Bernhardt; Dennis Cardoza; Denny Rehberg; Tony Coelho  
**Subject:** Fwd: Letter to Brown re BDCP

FYI

Begin forwarded message:

**From:** "Alison Joob" <[ajoob@fionahuttonassoc.com](mailto:ajoob@fionahuttonassoc.com)>  
**Date:** September 3, 2013, 12:30:58 PM PDT  
**To:** "Ann Newton" <[anewton@fionahuttonassoc.com](mailto:anewton@fionahuttonassoc.com)>, "Fiona Hutton" <[fhutton@fionahuttonassoc.com](mailto:fhutton@fionahuttonassoc.com)>, "Bob Muir" <[rmuir@mw dh2o.com](mailto:rmuir@mw dh2o.com)>, "Boni Brewer" <[bbrewer@zone7water.com](mailto:bbrewer@zone7water.com)>, "Brent Walthall" <[bwalthall@kcwa.com](mailto:bwalthall@kcwa.com)>, "Byron Buck" <[bbuck@sfcwa.org](mailto:bbuck@sfcwa.org)>, "Deborah Kollars" <[dkollars@comcast.net](mailto:dkollars@comcast.net)>, "Frances Brewster" <[fbrewster@valleywater.org](mailto:fbrewster@valleywater.org)>, "Jason Peltier" <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)>, "Jennifer Persike" <[JenniferP@acwa.com](mailto:JenniferP@acwa.com)>, "Kathy Cole" <[kcole@mw dh2o.com](mailto:kcole@mw dh2o.com)>, "Kurt Arends" <[karends@zone7water.com](mailto:karends@zone7water.com)>, "Linda Waade" <[lwaade@mw dh2o.com](mailto:lwaade@mw dh2o.com)>, "Lisa Lien Mager" <[LisaLM@acwa.com](mailto:LisaLM@acwa.com)>, "Mary Ann Ruiz" <[mruiz@valleywater.org](mailto:mruiz@valleywater.org)>, "Mary Lou Cotton" <[maryloucotton@kennedyjenks.com](mailto:maryloucotton@kennedyjenks.com)>, "Mike Wade" <[mwade@farmwater.org](mailto:mwade@farmwater.org)>, "Teresa Alvarado" <[talvarado@valleywater.org](mailto:talvarado@valleywater.org)>, "Terry Erlewine" <[terlewine@swc.org](mailto:terlewine@swc.org)>, "Tim Hunt" <[thunt@valleywater.org](mailto:thunt@valleywater.org)>, "Tom Philp" <[TPhilp@mw dh2o.com](mailto:TPhilp@mw dh2o.com)>, "Walt Wadlow" <[Walt.Wadlow@acwd.com](mailto:Walt.Wadlow@acwd.com)>, "Gayle Holman" <[gholman@westlandswater.org](mailto:gholman@westlandswater.org)>, "Ara.azhderian@sldmwa.org" <[Ara.azhderian@sldmwa.org](mailto:Ara.azhderian@sldmwa.org)>, "Zinke, Dee" <[DZinke@mw dh2o.com](mailto:DZinke@mw dh2o.com)>, "Cindy Kao" <[CKao@valleywater.org](mailto:CKao@valleywater.org)>, <[greg.zlotnick@sldmwa.org](mailto:greg.zlotnick@sldmwa.org)>, "Marty Grimes" <[mgrimes@valleywater.org](mailto:mgrimes@valleywater.org)>  
**Subject:** Letter to Brown re BDCP

Hello All,

FYI – seven members of Congress sent a letter to Gov. Brown urging him to postpone the release of the BDCP management plan.

See letter here:

<http://matsui.house.gov/uploads/8.30.13%20Letter%20to%20Gov%20Brown%20on%20BDCP.pdf>

Best,  
Alison

**FionaHutton&Associates**



Alison Joob Gallagher  
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**Subject:** Kiel Weaver and Adam Eckman

**Location:**1522 LHOB

**Start:**9/10/2013 8:00 AM

**End:**9/10/2013 9:00 AM

**Show Time As:**Tentative

**Recurrence:**(none)

**Meeting Status:**Not yet responded

**Organizer:**mitchbutler@naturalresourceresults.com

**Required Attendees:**tbirmingham@westlandswater.org; Bernhardt, David L. (DBernhardt@BHFS.com); Jeff Sutton; Kayla Cushman (kcushman@tccanal.com)

**Resources:**1522 LHOB

**Subject:** Meeting with Reps LaMalfa and Valadao

**Location:**TBD

**Start:**9/11/2013 2:00 PM

**End:**9/11/2013 3:00 PM

**Show Time As:**Tentative

**Recurrence:**(none)

**Meeting Status:**Not yet responded

**Organizer:**mitchbutler@naturalresourceresults.com

**Required Attendees:**'Karen Clark'; 'Jeff Sutton'; Bernhardt, David L. (DBernhardt@BHFS.com)

**Resources:**TBD



**From:** David Bernhardt  
**Sent:** Friday, September 6, 2013 7:48 AM  
**To:** Thomas W. (Tom) Birmingham Esq.  
**Subject:** Office

Tom: I wanted to offer that if you or the board members need either office space or conference room space for pre-meetings, post meetings, or simply a place to conduct any other business, I can ensure we have space available Monday, Tuesday, Wednesday, or Thursday in our offices for you.

David Bernhardt  


**From:** Bernhardt, David L.  
**Sent:** Monday, September 16, 2013 9:06 AM  
**To:** Tom Birmingham  
**CC:** joe.findaro@akerman.com  
**Subject:** Re: Contact

Will do. Joe Ill call you.

David Bernhardt

On Sep 16, 2013, at 11:49 AM, "Tom Birmingham" <tbirmingham@westlandswater.org> wrote:

> David and Joe,  
>  
> Attached is the contact information for Brent Bagilne, a legislative advocate with ConAgra. Mr. Bagilne would like to speak with you regarding how ConAgra might be able to help with Senator Feinstein. Please arrange a time when the two of you can speak with Mr. Bagilne.  
>  
> Let me know if you have any questions.  
>  
> Tom  
>  
> <mime-attachment>

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**From:** Frank Coelho, Jr.  
**Sent:** Wednesday, September 18, 2013 9:46 AM  
**To:** Pat.Coe@conagrafoods.com  
**Subject:** Fw: Contact  
**Attachments:** message (779 bytes)

Pat, attached is an email Tom Birmingham sent to Joe Findero and David Bernhardt. I think it's best if Brent talks with them before contacting Senator Feinstein. Please update me on Wednesday of next week on whether contact has been made. If contact has not been made by that time I will get personally involved to see that it gets done.

Thanks Frank

----- Original Message -----

From: Tom Birmingham [<mailto:tbirmingham@westlandswater.org>]  
To: dbernhardt@bhfs.com, joe.findaro@akerman.com  
Sent: Mon, 16 Sep 2013 08:48:06 -0700  
Subject: Contact

> David and Joe,  
>  
> Attached is the contact information for Brent Bagilne, a legislative  
> advocate with ConAgra. Mr. Bagilne would like to speak with you regarding  
> how ConAgra might be able to help with Senator Feinstein. Please arrange a  
> time when the two of you can speak with Mr. Bagilne.  
>  
> Let me know if you have any questions.  
>  
> Tom  
>  
>

**From:**

**Subject:** Brent Bagilne

**Attachments:** Brent Bagilne.vcf

BEGIN:VCARD  
VERSION:3.0  
PRODID:-//kerio.com/Contacts//NONSGML v1.0//EN  
TEL;TYPE=CELL:(202) [REDACTED]  
EMAIL;TYPE=PREF,WORK;CN="Brent Bagilne":brent.bagilna@conagrafoods.com  
FN:Brent Bagilne  
N:Bagilne;Brent  
ORG:ConAgra  
CLASS:PUBLIC  
X-FILE-AS:Bagilne, Brent  
END:VCARD

**From:** Jason Peltier

**Sent:** Friday, September 20, 2013 7:34 AM

**To:** 'Karen Clark'; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'Cheryl Faunce'; 'David Bernhardt'; 'Dennis Cardoza'; 'Denny Rehberg'; 'Doug Subers'; 'Ed Manning'; 'Erick Mullen'; 'Fowler West'; 'Gayle Holman'; 'Joe Findaro'; 'MargaretAnn Corbett'; 'Mike Burns'; 'Susan Ramos'; 'Tony Coelho'; T Birmingham

**Subject:** Mount review of BDCP for TNC

**Attachments:** FINAL BDCP REVIEW for TNC and AR Sept 2013.pdf

Attached.



September 19, 2013

**Re: Independent Panel Review of the Bay Delta Conservation Plan**

Dear Interested Stakeholder:

The attached report was prepared by an independent panel of experts convened by Dr. Jeff Mount for American Rivers and The Nature Conservancy to assist in our deliberations regarding the Bay Delta Conservation Plan. Dr. Mount assembled a balanced, interdisciplinary, and objective group of experts with long experience in the San Francisco Bay-Delta estuary to conduct this review of the March 2013 BDCP Administrative Draft and associated documents released during the Spring of 2013. This report will now join a growing library of independent reviews of efforts to resolve the Delta crisis.

The opinions, analyses, and recommendations provided in the report are solely those of the authors. Our organizations will use the information in the report along with our own analysis of BDCP to develop a proposal for increasing the probability that BDCP will substantially improve environmental conditions in the Delta. This report does not represent the position of American Rivers or the Nature Conservancy.

American Rivers and The Nature Conservancy have been active participants in the BDCP planning process for the last seven years. Our organizations have not taken a formal position in support of the proposed project described in the administrative draft of the BDCP, but we are fully committed to continue our work in good faith to develop a conservation plan for the Delta ecosystem that advances the co-equal goals of ecosystem restoration and water supply reliability. The status quo condition in the Delta is unacceptable, and without action, will result in the inexorable decline of the Delta ecosystem and the species it supports.

Please direct questions regarding the report to Leo Winternitz or John Cain at [lwinternitz@TNC.ORG](mailto:lwinternitz@TNC.ORG) and [jcain@americanrivers.org](mailto:jcain@americanrivers.org). Thank you for your consideration.

Sincerely:

Leo Winternitz  
Senior Advisor - Water Program  
The Nature Conservancy

John Cain  
Conservation Director  
American Rivers

# **PANEL REVIEW OF THE DRAFT BAY DELTA CONSERVATION PLAN: PREPARED FOR THE NATURE CONSERVANCY AND AMERICAN RIVERS**

---

**Jeffrey Mount, Ph.D. (Chair)**  
**William Fleenor, Ph.D.**  
**Brian Gray, J.D.**  
**Bruce Herbold, Ph.D.**  
**Wim Kimmerer, Ph.D.**

**Financial support provided by the S.D. Bechtel, Jr. Foundation**

**Technical support provided by NewFields, Inc.**

September 2013

**Saracino & Mount, LLC**



# Preface

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The Bay-Delta Conservation Plan is more than 15,000 pages long and covers a wide range of issues ranging from water supply, new facility construction, aquatic and terrestrial ecosystem management, governance and costs. Few outside of the handful of people deeply involved in BDCP actually know what is in the document due to its imposing size. This is particularly true for the various stakeholder groups who lack either the staff or the technical capacity to review the document and to evaluate the complex analyses that underpin it.

Saracino & Mount, LLC, was asked to assemble a panel of independent experts to review portions of the Plan to help guide decision-making by two non-governmental organizations: The Nature Conservancy and American Rivers. Guided by a narrow set of questions about how the Plan would impact water supply and endangered fishes, the panel reviewed the Plan documents and conducted analyses of data provided by the project consultants. The following document is a summary of our results.

It is important that this analysis not be over-interpreted. We do not endorse or reject the Plan. We only assess effectiveness of various conservation measures, guided by narrowly targeted questions. In addition, we make a handful of modest proposals to improve the performance of the Plan, particularly for issues of concern to the two non-governmental organizations. Thus, the scope of this review is quite limited.

The authors wish to thank the S.D. Bechtel, Jr. Foundation for its generous support. The staff of The Nature Conservancy and American Rivers provided abundant time and energy as we scoped this review. Jennifer Pierre, Armin Munevar, Chandra Chillmakuri, and Laura King-Moon provided voluminous data, answered our many questions and addressed our concerns. Spreck Rosecrans and Drs. Peter Moyle and Jay Lund provided comment on portions of the manuscript, although their comments do not constitute formal peer review. All errors of omission or commission are our own.

Jeff Mount, Panel Chair

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# Executive Summary

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Two non-governmental organizations, The Nature Conservancy (TNC) and American Rivers (AR), are evaluating their options for engagement with the Bay Delta Conservation Plan (BDCP). If approved, the Plan would become a Habitat Conservation Plan (HCP) under the federal Endangered Species Act and a Natural Communities Conservation Plan (NCCP) under California law. The purpose of the Plan is to allow for construction of new water diversion facilities in the Sacramento-San Joaquin Delta while also protecting aquatic and terrestrial species that may be adversely affected by the project and accompanying changes in the State Water Project (SWP) and Central Valley Project (CVP) operations. The Plan also includes habitat restoration and a commitment to assist in the conservation and recovery of species that are listed for protection under the federal and state Endangered Species Acts.

With financial support from the S.D. Bechtel, Jr. Foundation, Saracino and Mount, LLC, convened an independent panel of experts, with technical support from NewFields, Inc., to evaluate portions of the Plan. The panel, working jointly with TNC and AR, developed a series of technical and legal questions about the Plan. This report provides answers to these questions, along with limited recommendations on how to improve BDCP.

To simplify analysis, this review focuses on conditions for federally listed fishes during the Early Long Term (ELT), a decade after a permit would be issued (approximately year 2025). These are described in detail in the BDCP Effects Analysis and accompanying Environmental Impact Statement/Environmental Impact Report. We compared the performance of three different scenarios: a No Action Alternative (NAA) where no new North Delta diversion facility is constructed, a High Outflow Scenario (HOS) where the facilities are operated in a way that allows for occasional high spring and fall outflows, and a Low Outflow Scenario (LOS) with lower spring and fall outflows. The review also emphasizes in-Delta and Sacramento River watershed conditions during the ELT, with less attention to San Joaquin River conditions and fishes.

Although multiple data sources were used in this analysis, most hydrologic data came from CALSIM simulations conducted by BDCP consultants. The Panel strongly cautions about the conclusions drawn from these simulations. Flow simulations have three compounding uncertainties that can lead to significant error: (1) uncertainty in system understanding and future conditions, (2) model uncertainties (particularly the relationships between 1-, 2-, and 3-dimensional models), and (3) behavioral/regulatory uncertainty where the models cannot capture the scope of human behavior in operating the projects under various conditions. These uncertainties, which are not described in BDCP documents well, makes all of our conclusions contingent on the projects *actually being operated as simulated*.

## Do Operations Shift Delta Exports from Dry to Wet Years?

The BDCP calls for increasing exports in wet years and reducing them in dry years, taking advantage of the increased operational flexibility provided by two points of diversion. This

would reduce stress on Delta ecosystems during drier periods. Our analysis of simulation data suggests that while there is some increase in flexibility, export operations are highly constrained by upstream consumptive uses, regulations that cover reservoir operations, and flow and water quality standards. This greatly limits the anticipated benefit associated with operation of the dual facilities. Despite these limitations, as modeled, there is an increase in exports in wet years. In most dry years there are no substantial changes over NAA conditions. However, significant improvements in outflow and Old and Middle River (OMR) conditions occur in some dry years. We were unable to identify the regulatory or operational requirements that would lead to this.

### **Are Impacts of the North Delta Facility Fully Assessed and Mitigated?**

The Plan identifies multiple near- and far-field effects of the new North Delta facility. Based on our review of the Effects Analysis, the Plan appears to have properly identified the most significant effects and uses standard models to assess them. Outmigrating juvenile winter-run and spring-run Chinook salmon will be most heavily affected, leading, in the absence of mitigation, to significant losses. The Plan identifies multiple mitigation strategies, including pulse flow management, predator control, entrainment reduction, non-physical barriers, real-time operations and development of alternative migration pathways (Yolo Bypass). With the exception of benefits from diverting juveniles onto the Yolo Bypass, all of these mitigation approaches have high uncertainties. Done well and successfully, however, they appear to offset the losses associated with operation of the North Delta facility. The HOS appears most protective of conditions upstream of the Delta and adjacent to the new facility. However, mitigation actions are unlikely to contribute significantly to recovery of these species. Additionally, successful mitigation is likely to occur only if there is a robust adaptive management and real-time operations program. The Plan provides neither.

### **Are In-Delta Conditions Significantly Improved for Smelt?**

We evaluated the modeling results in the Plan and conducted our own modeling to evaluate how changes in conditions would affect delta and longfin smelt. As noted, we are concerned that anomalously positive (or less negative) OMR flows and high Delta outflows that are modeled during some drier years would not actually occur in real operations. However, if these changes were to occur we find modest to significant improvement in in-Delta conditions for smelt, particularly delta smelt. Improvements in OMR flows under HOS and LOS result in substantial decreases in entrainment, leading to significant increases in long-term survival percentages for delta smelt. However, increases in spring and fall outflow under HOS lead to small increases in longfin smelt abundance and modest improvements in delta smelt recruitment.

### **Will Pelagic Fishes Benefit from Floodplain and Tidal Marsh Restoration?**

The Plan properly identifies food limitation as a significant stressor on smelt populations in the Delta. The Plan proposes to address this issue by restoring physical habitat to help subsidize pelagic food webs. Based on simple modeling and comparison with other systems,

we find that restored floodplains and tidal marshes are unlikely to make a significant contribution to smelt rearing habitat conditions. Tidal marshes can be sinks or sources of food, with most appearing to be sinks for zooplankton. The Plan appears to be too optimistic about the benefits of tidal marsh and floodplain restoration. However, there is likely to be benefit where fishes have direct access to productivity, such as in Cache Slough. In addition, although benefits for listed pelagic fishes are low, there are broad benefits of restoration for many aquatic and terrestrial species covered by the Plan.

### **Does the Plan Provide an Effective Governance Structure?**

We reviewed the proposed BDCP governance structure to evaluate its likely effectiveness in meeting the Plan's goals and objectives. Implementation of BDCP would be overseen by an Authorized Entity Group (AEG) comprising the California Department of Water Resources (DWR), the U.S. Bureau of Reclamation (USBR), and the state and federal water contractors if they are issued incidental take permits pursuant to the BDCP. A Permit Oversight Group (POG), consisting of the U.S. Fish and Wildlife Service (USFS), the National Marine Fisheries Service (NMFS), and the California Department of Fish and Wildlife (CDFW), would monitor implementation of the Plan and compliance with the biological objectives and conservation requirements. The draft BDCP includes a 50-year "no surprises" guarantee, as well as other regulatory assurances. We found that, when examined in detail, the draft BDCP blurs the lines between implementation and regulation and grants the permittees unusual decision authority. Additionally, the regulatory assurances in the Plan, especially the "no-surprises" policy, place undue financial responsibilities on the state and federal governments if certain modifications to the Plan become necessary during its 50-year term. Given the complexity of the Delta ecosystem, predicted changes in hydrology, anticipated changes in the Delta not included in the Plan, and significant scientific uncertainties, Plan modifications are likely to be needed in the future.

### **Is There a Robust Science and Adaptive Management Plan for BDCP?**

The Plan is committed to adaptive management in order to address the high uncertainties. Most of the unresolved issues in the Plan are to be resolved at a future date through adaptive management. A "decision tree" approach is proposed to resolve conflicts over starting operations. We found that the governance structure, whereby the AEG may exercise veto authority over changes to the biological objectives and conservation measures, is likely to create disincentives for adaptive management. In addition, a proposed consensus-based Adaptive Management Team made up of POG, AEG, and scientific community members creates conflicting relationships between decision-makers and providers of key information. The limited information available about the science program suggests that BDCP proposes to develop a wholly new science program that is not integrated, but should be, with existing programs. Finally, our review of the "decision tree" process indicates that it is unlikely to achieve the goal of significantly reducing uncertainties before the North Delta facility is constructed and ready for operation.

## Recommendations

Based on answers to these six questions, the Panel formulated a list of nine recommendations for improving BDCP.

- All parties need to recognize the model uncertainties in BDCP and factor that into decision-making. It is unlikely that actual operations will follow simulated operations.
- Given the high uncertainty over mitigation for the North Delta facility, all mitigation efforts should be in-place and tested *before* the facility is completed. This includes completion of the Fremont Weir modifications on the Yolo Bypass as well as large scale, significant experiments in real-time flow management, predator control and non-physical barriers.
- The improvements in long-term survival percentages for delta smelt in response to changes in OMR need to be more rigorously evaluated, particularly in light of uncertainties over operations. If further examination supports these findings, operational rules should be developed that insure that the anomalous, significantly improved drier-period OMR and outflow conditions occur.
- The limited benefit derived from changes in outflow under HOS requires a second look at options for significant increases in outflow, including finding sources of water outside the direct control of BDCP.
- Although we find that marsh and floodplain restoration is unlikely to create the benefits for pelagic fishes described in the Plan, this can only be resolved through experimental restoration projects. These projects need to be designed and implemented rapidly to resolve this issue.
- Substantial revision of BDCP's governance structure is needed. This includes giving full regulatory authority to the POG, while limiting their involvement in implementation.
- To address high uncertainties about project performance and future conditions, instead of a 50-year permit, there should be renewable "no surprises" guarantees issued every ten years based on conditions at the time and prior performance.
- An adaptive management program needs to be developed that has the capacity and authority to conduct adaptive management experiments and effectively use outcomes to revise and improve future actions..
- A well-funded BDCP science program needs to be developed that is integrated with existing Delta science programs. The best opportunity for integration lies with the current efforts to update the Delta Science Program.

# Chapter 1: The Bay Delta Conservation Plan and Charge to the Panel

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## Introduction

The Bay Delta Conservation Plan (BDCP) is being developed to meet endangered species act permit requirements for operations of the Federal Central Valley Project (CVP) and the State Water Project (SWP) within the Sacramento-San Joaquin Delta. The Plan includes proposals for new points of diversion in the North Delta, new operations criteria, extensive floodplain and tidal marsh restoration, and new governance, oversight and adaptive management programs. The Plan applicants are seeking Habitat Conservation Plan (HCP)/Natural Communities Conservation Plan (NCCP) permits that will guide water exports and habitat management for 50 years.

The Bay Delta Conservation Plan is the most complex HCP/NCCP permit application ever attempted. Development of the Plan has been funded principally by state and federal water contractors and has been on-going for more than 5 years. In Spring 2013, select chapters of the Administrative Draft of BDCP were serially released for public review<sup>1</sup>. An Administrative Draft of the EIS/EIR for the Plan was released in May of 2013<sup>2</sup>.

At the request of The Nature Conservancy California and American Rivers—two non-governmental organizations engaged in the BDCP process—an independent panel of five experts (Text Box 1.1) was assembled to assist in technical review of BDCP documents. The panel was asked to answer a suite of questions about the Plan to help inform decisionmaking by American Rivers and The Nature Conservancy. The panel was assembled and managed by Saracino & Mount, LLC, under contract from the S.D. Bechtel, Jr. Foundation Water Program. NewFields, Inc. provided support for the panel, including data retrieval, analysis and presentation. This report summarizes the conclusions of the work of this panel.

## Guiding Questions

Two planning meetings were held between Saracino & Mount, LLC and staff of American Rivers and The Nature Conservancy. An initial list of more than 40 questions were developed that were germane to decisions that the organizations

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<sup>1</sup> This report assumes that the reader is familiar with the Sacramento-San Joaquin Delta and on-going efforts to manage water supply and ecosystems to meet the co-equal goals prescribed in the 2009 Delta Reform Act. A summary of conditions in the Delta and other issues can be found at: <http://baydeltaconservationplan.com/Home.aspx>

<sup>2</sup><http://baydeltaconservationplan.com/Library/DocumentsLandingPage/EIREISDocuments.aspx>



needed to make about future engagement with BDCP. These questions were distilled into the following six:

- *Q.1 Do operations of the dual facilities meet the broader goal of taking advantage of wet and above average years for exports while reducing pressure on below average, dry and critically dry years? What substantive changes in operations (and responses, see below) are there both seasonally and interannually?*
- *Q.2 Based on operations criteria, does the Plan properly identify ecological impacts likely to occur adjacent to and in the bypass reach downstream of the new North Delta diversion facilities? If there will be direct and indirect harm to listed species by the facilities, does the Plan prescribe sufficient mitigation measures?*
- *Q.3 Are changes in operations and points of diversion prescribed in the Plan sufficient to significantly improve in-Delta conditions for covered species? The*

**Text Box 1.1: Members of the Review Panel.**

*Jeffrey Mount, Ph.D. (chair), geomorphologist, Professor Emeritus UC Davis, former Chair of the Delta Independent Science Board, and Partner, Saracino & Mount, LLC*

*William Fleenor, Ph.D. hydrologist and water quality specialist, Research Scientist, UC Davis Center for Watershed Sciences*

*Brian Gray, J.D. Professor, environmental law, UC Hastings.*

*Bruce Herbold, Ph.D. retired US Environmental Protection Agency, former Coordinator for the Interagency Ecological Program*

*Wim Kimmerer, Ph.D. food web ecologist, Researcher, San Francisco State University, Tiburon Center.*

*focus is on listed species, including delta and longfin smelt, steelhead, winter and spring run Chinook, and green sturgeon.*

- *Q.4 Are covered pelagic fish like longfin smelt and delta smelt likely to benefit from restoration of floodplain and tidal marsh habitat at the scale proposed by the Plan? Given the current state of knowledge, and assuming that all Plan commitments are met, are these efforts likely to result in relaxed X2 and spring outflow standards?*
- *Q.5 Does the Plan provide achievable, clear and measureable goals and objectives, as well as governance that is*

- transparent and resilient to political and special interest influence?*
- *Q.6 Is there a robust science and adaptive management plan for BDCP? As described, is the proposed “decision tree” likely to resolve major issues regarding Fall X2 and Spring Outflow prior to initial operations?*

Using these questions as guide, the panel reviewed selected chapters within the Plan. The focus of the review was on the biological goals and objectives for species of fish listed as threatened or endangered (BDCP Chapters 1, 2), the conservation measures proposed to meet the biological objectives (BDCP Chapter 3 and appendixes, see Text Box 1.2), and the analysis of the effects of the project on Delta fish species and communities (BDCP Chapter 5 and appendixes). The panel also examined governance, adaptive management and science programs proposed in the

Plan, including the “decision tree” intended to resolve technical disagreements about initial operations (BDCP Chapters 3, 5, 6, 7, 8, 9, 10).

In addition to reviewing BDCP documents and literature, the panel held two meetings with the consultants who prepared the Plan for the project applicants. The consultants answered questions about analyses contained within the Plan and provided or directed panel members to pertinent sources of modeling data.

#### Text Box 1.2: Conservation Measures Considered by the Panel

There are 22 different conservation measures in BDCP. Since the questions asked were narrowly defined, the Panel focused only on five of the measures. These include:

Conservation Measure 1: Operations and Facilities. This covers the design, implementation and operation of a new North Delta point of diversion and the operation of all SWP and CVP facilities to improve conditions for listed species.

Conservation Measure 2: Yolo Bypass Fisheries Enhancement. The Plan proposes to increase winter flooding in the Yolo Bypass to improve rearing habitat for salmon as well as improve Delta food webs.

Conservation Measure 4: Tidal Natural Communities Restoration. This measure seeks to restore 55,000 acres of tidal freshwater and brackish marsh, with an additional 10,000 acres of transitional habitat. This will improve rearing habitat for several listed species and improve food webs for pelagic fishes.

Conservation Measure 5: Seasonally Inundated Floodplain Restoration. The Plan seeks to restore 10,000 acres of seasonal floodplain outside of the Yolo Bypass. This supports juvenile salmonids and overall food web productivity of the Delta.

Conservation Measure 6: Channel Margin Enhancement. The goal of the Plan is to improve conditions for rearing salmonids along channels of the Delta with close levees. This measure will improve 20 linear miles of channel by creating mudflat, riparian and wetland habitat through levee setbacks.

## Basis of Comparison

The Bay Delta Conservation Plan seeks a permit for operation of the SWP and CVP at a future date when new facilities will be constructed. As written, the preferred alternative is to construct a new point of diversion in the North Delta on the Sacramento River near Freeport, with the goal of completion in 2025. This

diversion is to have three screened intakes that will divert water into forebays and a pair of tunnels capable of transmitting a maximum of 9000 cfs by gravity feed. These tunnels will link to existing SWP and CVP export facilities located in the South Delta. Permit authority for the construction and combined operations of these facilities—typically referred to as dual facilities—are the foundation of the plan. Construction and operations are paired with extensive conservation measures (see below) to mitigate for impacts of the project and to conserve and recover listed species and their biological communities.

One of the many controversies surrounding the Plan is the establishment of an environmental baseline for comparison of alternatives and analysis of the effects of the project on listed species. The requirements of the Biological Opinions (BiOps) issued by the U.S. Fish and Wildlife Service (USFWS) in 2008 and the National Marine Fisheries Service (NMFS) in 2009 constitute the baseline for the Plan. There is considerable debate between the fish agencies (NMFS and USFWS principally) and the permittees over the provisions of these BiOps, particularly in regard to requirements for high Delta outflows to support longfin smelt in the spring and high outflows to achieve Fall X2 (low salinity zone) provisions to support delta smelt. For this reason, there are two Existing Biological Conditions (EBC) considered by the Plan (Table 1.1): EBC1 includes high spring outflow provisions and EBC2, includes both high spring outflow and the new Fall X2 provisions.

A central requirement of the Plan, and the source of much of its complexity, is to analyze conditions over the 50-year life of the project. The Plan divides future conditions into two classes: Early Long Term (ELT), which captures the initial operating conditions of the project once a new diversion facility has been constructed (approximately 2025), and Late Long Term (LLT) which accounts for full completion of all conservation measures, including restoration of more than 55,000 acres of tidal marsh and floodplain (approximately 2060). Climate change, particularly changes in runoff and sea level, and changes in water demand are incorporated in these projections.

The controversy over spring and fall outflow needs for conservation and recovery of listed species propagates into the assessments of future conditions. Without-project EBC1 and EBC2 are considered for both ELT and LLT. Evaluated starting operations (ESO) of the preferred project and alternatives are presented for ELT and LLT conditions. Two additional future scenarios are evaluated that purport to provide bookends to project operations that dictate future water exports. The first is a High Outflow Scenario (HOS), which is similar to the outflow standards in EBC2 (high spring and fall outflow). The second is a Low Outflow Scenario (LOS), which has reduced outflow standards for both spring and fall. Both the LOS and HOS are considered in the ELT and LLT, with the latter including completion of habitat restoration. The Plan proposes a “decision tree process” be undertaken during construction of the facility that will reduce uncertainties and guide initial project operations, presumably within the bounds of the HOS and LOS (reviewed in Chapter 9).

For the purposes of this review, we simplified our comparison of operations and restoration scenarios to just three. Using simulation data provided by BDCP consultants we examined the HOS and LOS scenarios for ELT. We then used a no-project alternative, NAA ELT, that commonly appears throughout BDCP documentation, particularly in the EIR/EIS. NAA prescribes a high fall outflow to maintain X2 standards for smelt and D-1641 salinity and flow standards required by the State Water Resources Control Board for the remainder of the year.

**Table 1.1. Definitions of existing baseline conditions and project conditions simulated in BDCP.**

Conditions		Description
Existing Biological Conditions	EBC1	Current operations based on BiOps, excluding management of outflows to the Fall X2 provisions of USFWS 2008 BiOp.
	EBC2	Current operations based on BiOps, including management of outflows to meet USFWS Fall X2 provisions from 2008 BiOp.
Projected Future Conditions without the BDCP	EBC2_ELТ	EBC2 projected into year 15 (2025) accounting for climate change expected at that time.
	EBC2_LLТ	EBC2 projected into year 50 (2060) accounting for climate change expected at that time.
Projected Future Conditions with the BDCP	ESO_ELТ	Evaluated starting operations in year 15 assuming new intake facility operational and restoration not fully implemented
	ESO_LLТ	Evaluated starting operations in year 50 assuming new intake facility operational and restoration fully implemented.
	HOS_ELТ	High-outflow operations during spring and fall in year 15 assuming new intake facility operational and restoration not fully implemented.
	HOS_LLТ	High-outflow operations during spring and fall in year 50 assuming new intake facility operational and restoration fully implemented.
	LOS_ELТ	Low-outflow operations during spring and fall in year 15 assuming new intake facility operational and restoration not fully implemented.
	LOS_LLТ	Low-outflow operations during spring and fall in year 50 assuming new intake facility operational and restoration fully implemented.

It should be noted that the Panel chose not to review LLТ scenarios and conditions beyond the question of whether restoration of marsh is likely to benefit listed fishes.

Although it is necessary and useful to consider how the project might operate over the long-term, especially under climate change, the Panel felt that exceptionally high uncertainties made it difficult to offer precise answers within the LLT framework. These uncertainties are associated with our understanding of the Delta, with the models used to simulate future conditions, and with the array of events (biological invasions, floods, droughts, earthquakes, policy changes, lawsuits, etc.) that are likely to occur.

## **A Note About Hydrologic Modeling Tools and Uncertainties**

The basis for the BDCP analysis is hydrologic simulation modeling that provides flow, water elevations, temperature and salinity at various locations throughout the Delta and its upstream areas. Much of the Effects Analysis for aquatic species and all of the export projections are based on outputs from these hydrologic models. BDCP is one of the most complex modeling efforts of its kind and certainly the most complex ever attempted in the Delta. This is a heroic modeling effort.

There are three general categories of uncertainty in the hydrologic model results:

*Model uncertainties.* This includes how the model simulates hydrology and the hydrologic results of operations, including salinity, temperatures and other water quality parameters. The currently available modeling tools are less than ideal to simulate such a long-term record with dramatic changes in conditions such as sea level rise and introduced sub-tidal and inter-tidal land. The principal issues are summarized in Text Box 1.3.

*Future condition uncertainties.* There is extensive effort in BDCP to estimate future conditions in the Delta, including sea level rise and changes in temperature and runoff. This is the most comprehensive approach to date. These are described well in Appendix 5A of the Plan and highlight high levels of uncertainty.

*Regulatory and behavioral uncertainty.* BDCP models assume that flow and water quality standards will remain static during the life of the project. In addition, the models assume uniform behavior of system operators, ignoring real-time operations and adaptations. All of these are highly unlikely to occur.

The hydrologic model results of BDCP are presented as if they are a unique solution. Given the compounding uncertainties, BDCP model results should be considered as scenarios rather than specific outcomes. This issue is often lost in the public debates over BDCP. As discussed later in this report, the model uncertainties significantly impact our confidence in some of our results, particularly our analysis of the response of pelagic fishes to changes in South Delta operations.



#### Text Box 1.3: Hydrologic Model Uncertainty.

To adapt existing tools to model future conditions under BDCP consultants developed dispersion coefficients with the 3-dimensional UnTRIM model developed by Michael MacWilliams for sea level rise. A similar process was then followed with a 2-dimensional model developed by Research Management Associates to estimate the additional dispersion for the proposed new open tidal areas. Parameters developed from the multi-dimensional efforts were then incorporated into the 1-dimensional DSM2 planning model developed by DWR to simulate a part of the long-term record incorporating sea level rise and tidally restored acreage. The boundary conditions for the DSM2 model, which operates at time steps as short as 15 minutes, was provided by CALSIM, the 1-dimensional system-wide water operations optimization model. CALSIM output occurs on monthly time steps and had to be disaggregated to provide boundary conditions for DSM2. All the results, including the DSM2 results and artificial neural network salinity results, were then used to train the CALSIM model. The CALSIM model was then used to simulate the entire 82-year record that formed the basis for the Effects Analysis. All of these model exchanges, particularly between 1-, 2-, and 3-dimensional models, create error or model bias. To date, there is no assessment of these model biases and how they impact BDCP results.

## Organization of This Report

This report is organized into nine chapters followed by a summary of answers to the guiding questions. Chapters 2-9 include:

- *Chapter 2, Overview of the Law Governing BDCP.* Although not specifically requested by TNC and AR, we found it helpful to review key provisions of the HCP/NCCP laws that set standards for recovery of populations of covered fishes.
- *Chapter 3, Water Supply Operations.* This chapter examines how BDCP performs in meeting the goal of increasing water supply reliability. This includes assessment of changes in export volumes, both seasonally and within different year types.
- *Chapter 4, Environmental Flow Performance: Upstream and Inflows.* The new facilities and their operation are supposed to improve flow conditions impacted by the SWP and CVP. This chapter describes flows regulated by project dams, flows past and through the new North Delta facilities, and the overall inflow regime of the estuary.
- *Chapter 5, In-Delta Effects on Pelagic Fishes.* The changes in flow conditions outlined in the previous chapter translate to changes in ecological conditions for listed fish species. This chapter evaluates the likely response of delta smelt and longfin smelt to these changes

- *Chapter 6, Estimated Effects of BDCP Flows on Smelt.* This chapter examines the magnitude of changes in outflow and the likely response of delta and longfin smelt.
- *Chapter 7, Likely Response of Listed Fishes to Habitat Restoration.* A fundamental hypothesis of BDCP is that restoration of physical habitat, particularly tidal marsh, will improve food web conditions for pelagic fishes, aiding their recovery. This chapter evaluates this hypothesis.
- *Chapter 8, Governance and Terms of BDCP.* The 50-year permit for the project, coupled with governance and oversight, are examined in this chapter.
- *Chapter 9, Science and Adaptive Management.* The Plan makes extensive mention of the use of adaptive management supported by robust science to address major uncertainties. The Plan's objectives in this regard are reviewed.
- *Chapter 10, Summary and Conclusions.* This chapter provides a summary of answers to the six questions presented to the panel by American Rivers and The Nature Conservancy. In addition, where appropriate, recommendations are offered for ways to improve the performance of BDCP.

## Conclusion

This report is, by design, narrowly focused on a limited set of issues of concern to The Nature Conservancy and American Rivers. It is not intended to serve as a broad review of BDCP, nor is it directed toward a wide audience. In addition, the panel specifically steered away from endorsing or rejecting BDCP, and makes no recommendation on the critical question of whether American Rivers and The Nature Conservancy should support BDCP, support it with modifications, or reject/oppose it. Rather, the observations, analyses and recommendations are solely intended to inform this decision.

# Chapter 2: An Overview of the Law Governing the BDCP

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## Introduction

This chapter provides a brief overview of the law that governs the creation and implementation of the Bay Delta Conservation Plan. It also addresses an important question that has arisen during the BDCP negotiations: May the California Department of Fish and Wildlife (CDFW) approve the BDCP as a natural community conservation plan if the BDCP does not provide for full recovery of the endangered and threatened species covered by the Plan?

## Habitat Conservation Planning and Natural Community Conservation Planning Under Federal and California Law

The BDCP is a Habitat Conservation Plan (HCP) authorized by section 10(a) of the federal Endangered Species Act (ESA), 16 U.S.C. § 1539(a), and a Natural Community Conservation Plan (NCCP) authorized by the California Natural Community Conservation Planning Act (NCCPA), California Fish and Game Code §§ 2800-2835. Section 10(a) of the federal ESA allows the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) to issue permits that authorize the taking of endangered or threatened species “if such taking is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity” and the proposed activity is governed by an approved HCP. *Id.* § 1539(a)(1)(B) & (2). Similarly, under the NCCPA the California Department of Fish and Wildlife (CDFW) may “authorize by permit the taking of any covered species . . . whose conservation and management is provided for in a natural community conservation plan approved by the department.” California Fish & Game Code § 2835.<sup>1</sup>

If approved by the three fish and wildlife agencies, the BDCP will be a legally binding document that defines the terms and conditions under which the U.S. Bureau of Reclamation (USBR) and the California Department of Water Resources (DWR) may construct and operate the proposed new water diversion and transport facilities described in the draft Plan.<sup>2</sup> The BDCP also will serve as “a comprehensive

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<sup>1</sup> The NCCPA defines “covered species” to include species that are listed for protection under the California Endangered Species Act, California Fish & Game Code §§ 2050-2115.5, and nonlisted species that are “conserved and managed under [another] approved natural community conservation plan and that may be authorized for take.” *Id.* § 2805(e).

<sup>2</sup> The complete statutory requirements governing the contents and approval of the BDCP as an HCP and NCCP are set forth respectively in section 10(a)(2)(A) & (B) of the federal Endangered Species Act, 16 U.S.C. § 1539(a)(2)(A) & (B), and sections 2810 and 2820 of the California Fish and Game Code.



conservation strategy for the Sacramento–San Joaquin River Delta (Delta) designed to restore and protect ecosystem health, water supply, and water quality within a stable regulatory framework” (BDCP 1-1)<sup>3</sup>.

The BDCP will include “regulatory assurances” that protect the permittees from the financial cost of changes to the BDCP or other regulatory changes needed to protect the species or their habitat<sup>4</sup>. As authorized by federal and state law, these regulatory assurances provide that, if changed circumstances arise that are either unforeseen or not provided for in the Plan, then the fish and wildlife agencies will not require the permittees to devote additional land, water, or financial resources beyond the levels set forth in the BDCP without the consent of the plan participants. Nor will the federal and state regulators impose additional restrictions on project operations without compensating the permittees for the lost water or additional costs.<sup>5</sup>

Both statutes also authorize the fish and wildlife agencies to suspend or revoke the incidental take permits for noncompliance with the terms and conditions of the BDCP or where implementation of the Plan will place the covered species in jeopardy of extinction.<sup>6</sup>

We consider the regulatory assurances, revocation authority, and other aspects of BDCP governance in Chapter 8.

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<sup>3</sup> In addition, the BDCP will be the basis for a biological assessment that USBR will submit to the USFWS and NMFS prior to consultation under section 7 of the Endangered Species Act. BDCP 1-6. The BDCP thus will help to inform the federal fish and wildlife agencies’ analysis of the new facilities and changes in coordinated CVP/SWP operations proposed in the draft Plan. The agencies then will decide whether the BDCP “is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [the species’ critical habitat].” 16 U.S.C. § 1536(a)(2). If the agencies determine that the BDCP *is* likely to jeopardize a listed species or adversely affect critical habitat, the biological opinion that they issue to the Bureau will include “reasonable and prudent alternatives” designed to avoid these consequences, as well as incidental take authorization governing CVP operations. *Id.* § 1536(b)(3) & (4).

<sup>4</sup> The regulatory assurances will apply to all entities that are issued incidental take permits under the BDCP, including DWR and the CVP and SWP contractors if the contractors become permittees. The “no surprises” assurance will not apply, however, to the Bureau of Reclamation. BDCP 6-29.

<sup>5</sup> The USFWS and NMFS adopted the federal “no surprises” policy by rulemaking in 1998. The substantive requirements of these rules may be found at 50 C.F.R. § 17.22(b)(5) & (6) and 50 C.F.R. § 222.307(g), respectively. The state “no surprises” guarantees are set forth in the NCCPA itself. California Fish & Game Code § 2820(f).

<sup>6</sup> The federal suspension and revocation rules are set forth in the Endangered Species Act, 16 U.S.C. § 1539(a)(2)(C), and in the ESA regulations, 50 C.F.R. § 17.22(b)(8). The state law counterparts may be found in California Fish & Game Code § 2820(b)(3).

## Conservation and Recovery Requirements Under Federal and State Law

The federal Endangered Species Act and the California Natural Communities Conservation Planning Act differ in their respective conservation and recovery standards. The federal statute provides that the fish and wildlife agencies may not approve the BDCP unless they determine that the incidental take authorized by the permit and HCP “will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.” 16 U.S.C. § 1539(a)(2)(B)(iv).

In contrast, the NCCPA states that Department of Fish and Wildlife may approve the BDCP only if it finds *inter alia* that the Plan

provides for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves or other measures that provide equivalent *conservation* of covered species appropriate for land, aquatic, and marine habitats within the plan area.

California Fish & Game Code § 2820(a)(3) (emphasis added). The Act defines “conservation” as “the use of methods and procedures within the plan area that are necessary to bring any covered species to the point at which the measures provided pursuant to [the California Endangered Species Act] are not necessary.” *Id.* § 2805(d) (emphasis added).

In other words, the federal Endangered Species Act requires only that habitat conservation plans ensure that the permitted activities do no significant harm to the listed species or to their critical habitats. The California Natural Communities Conservation Planning Act, by comparison, regards proposed projects such as the BDCP as opportunities for more coordinated and cohesive planning to improve the condition of covered species and their habitat, rather than simply being a means to authorize the permitted activities while maintaining the *status quo ante*.

The draft BDCP describes its biological goals and objectives in two different ways. At the “landscape level,” the goals include restoration or creation of “ecological processes and conditions that sustain and reestablish natural communities and native species” (BDCP 3.3-5). At the “species level,” however, the biological goals refer to *progress toward* the landscape level goal of reestablished and sustainable natural communities and native species.

Thus, the primary biological goals for the Delta Smelt and Longfin Smelt are “increased end of year fecundity and improved survival of adult and juvenile . . . smelt to support increase abundance and long-term population viability” (BDCP 3.3-13 & 3.3-16). Similarly, the principal biological goal for Sacramento Winter-Run Chinook Salmon is “improved survival (to contribute to increased abundance) of immigrating and emigrating . . . salmon through the Plan Area,” (BDCP 3.3-16), and

for other species of salmon and steelhead the goal is “increased . . . abundance” (BDCP 3.3-17 to 3.3-19).

The draft BDCP explains that the process of developing these species level biological goals “did not assume that the BDCP would be solely responsible for recovery of these species, and so the designated biological goals and objectives did not necessarily match the recovery goals, but instead represented the BDCP’s potential to *contribute to recovery* within the Plan Area (BDCP 3.A-14: emphasis added). This decision has become a focal point of debate over the essential purposes and mandates of the NCCPA.

In a July 10, 2013, letter to the Director of CDFW, three environmental organizations challenged the BDCP’s proposed adoption of biological goals that do not provide for full recovery of the species, arguing that this “contribution to recovery” standard violates California law:

Under the plain text of the NCCPA, conservation means recovery, and a Plan is required to contain measures that are sufficient to achieve recovery within the plan area.

*The Natural Community Conservation Planning Act is the Foundation for a Successful Bay Delta Conservation Plan*, Letter to Charlton H. Bonham, Director of the California Department of Fish and Wildlife, from the Defenders of Wildlife, Natural Resources Defense Council, and the Bay Institute, July 10, 2013, at 5 (citing Fish & Game Code § 2805(c)).

As described in detail in the chapters that follow, the limitations on project operations and other conservation measures set forth in the draft BDCP would not meet the conservation standard proposed by the July 10th letter—*viz.* full recovery of the listed species—though they are likely to contribute to species recovery. The letter thus raises a critical legal question that will have to be resolved by the Director of CDFW, in consultation with the Department’s General Counsel and the Attorney General, before the Department decides whether to approve the BDCP.

The answer to this question is not free from doubt, as the Legislature defined the purposes of the NCCPA in terms that stand in some tension to one another. For example, section 2801(i) declares that the “purpose of natural community conservation planning is to *sustain and restore* those species and their habitat . . . that are necessary to maintain the continued viability of those biological communities impacted by human changes to the landscape.” California Fish and Game Code § 2801(i) (emphasis added). In contrast, section 2801(g) states that “[n]atural community conservation planning is a mechanism that can provide an early planning framework for proposed development projects . . . in order to avoid, minimize, and compensate *for project impacts to wildlife*.” *Id.* § 2801(g) (emphasis added).

A careful and integrated reading of the text of the substantive provisions of the statute, however, should lead to the conclusion that the Act authorizes the CDFW to approve the BDCP if it concludes that the Plan would protect listed species from the adverse effects of the projects authorized by the Plan (including full mitigation of those effects) *and* would promote the recovery of listed species. Stated differently, we do not believe that the Legislature intended to prohibit the Department from approving the BDCP unless it concludes that the Plan—in isolation both from other existing sources of the species’ decline and from other state and federal actions to protect listed species—will achieve full recovery of the species. We reach this conclusion for several reasons.

First, the interpretation of the statute proposed in the July 10th letter is based entirely on the section of the Act that defines the term “conservation.” If the Legislature actually intended to require the CDFW to determine that an NCCP would be likely to achieve full recovery of listed species, it would have included this requirement in Section 2820, which governs the Department’s approval of proposed NCCPs.

Section 2820(a) lists ten separate findings that are prerequisite to CDFW approval, and section 2820(b) contains nine terms that must be included in the implementation agreements that accompany the NCCPs. None of these mandatory findings and terms includes the requirement proposed in the July 10th letter. We do not believe that the Legislature somehow intended to add a twentieth requirement to these lists—that the NCCP and implementation plan must provide for full species recovery—by implication from the definitions section of the Act.

Second, there are two provisions in section 2820 that expressly link the required conservation measures to the effects of the project authorized by an NCCP. Section 2820(a) states that the CDFW may approve an NCCP only if it finds that the plan

*contains specific conservation measures that meet the biological needs of covered species and that are based upon the best available scientific information regarding the status of covered species and the impacts of permitted activities on those species. [Id. § 2820(a)(6) (emphasis added).]*

Section 2820(b) stipulates that implementation agreements must include provisions

*to ensure that implementation of mitigation and conservation measures on a plan basis is roughly proportional in time and extent to the impact on habitat or covered species authorized under the plan. These provisions shall identify the conservation measures . . . that will be maintained or carried out in rough proportion to the impact on habitat or covered species. [Id. § 2820(b)(9) emphasis added].*

This pairing of conservation and recovery with references to the “impacts of permitted activities,” together with the “rough proportionality” limitation on

conservation measures, suggests that the Legislature intended to authorize NCCPs as a means of contributing to other state and federal efforts to recover species, but not significantly in excess of the burdens that the project covered by the plan would impose on the species.<sup>7</sup>

Third, there is nothing in the text or legislative history of the NCCPA to indicate that the Legislature intended to force the state to bear programmatic and financial responsibility for full species recovery each time the CDFW approves an NCCP.<sup>8</sup> Conservation measures required to achieve full recovery may extend far beyond the scope of an individual NCCP. Indeed, a requirement of full recovery would be particularly problematic for plans such as the BDCP that involve multiple species (some of which only partly inhabit the program area), multiple sources of stress, and diverse land and water management and regulatory agencies that each have independent obligations to contribute to species conservation and recovery. We do not believe that the Legislature would have assigned such a Herculean obligation to the Department, or imposed such a potentially large financial burden on state taxpayers, without saying so explicitly in the text of the statute.

Finally, an interpretation of the statute that would require the CDFW to make a determination that all proposed NCCPs provide for full recovery of listed species would likely have the unintended and pernicious consequence of deterring the Department from approving future plans. The CDFW might conclude that the scope of the necessary species recovery effort extends beyond the scope of the proposed project and hence beyond the capabilities of the project restrictions and conservation measures that would be included in the individual NCCP. Or it might be reluctant to approve an NCCP in situations where the costs of full recovery of the listed species covered by the plan—which the state would have to bear—significantly exceed the project mitigation costs that may be placed on the project proponents.

Again, these factors are especially pronounced in contexts such as the Delta ecosystem where there are multiple species (some of whose habitat is only partly

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<sup>7</sup> The July 10th letter acknowledges that the NCCPA contains this “rough proportionality” limitation, but argues that “the concept of ‘rough proportionality’ is applied only to mitigation measures and not to a plan’s conservation measures.” Letter to Director Bonham at 7. The text of the Act belies this interpretation, however, as four of the five statutory references expressly apply the “rough proportionality” limitation to the conservation requirements. See California Fish & Game Code §§ 2805(g)(3)(C), 2820(b)(3)(B), § 2820(b)(9) & § 2820(c).

<sup>8</sup> The July 10th letter recognizes that the entities that receive incidental take permits under the BDCP may not be required to bear all of the costs of recovery of the various listed species: “[W]hen dividing up the costs of the plan’s conservation strategy, the individual developers are only responsible for paying for ‘mitigation’ and the ‘conservation’ increment above mitigation is the responsibility of the state.” Letter to Director Bonham at 7. Thus, if the costs of recovery exceed the mitigation costs that lawfully may be assigned to the permitted entities, the state must make up the difference: “The BDCP cannot limit its conservation measures to address only those impacts from the covered activities and avoid providing conservation measures sufficient to recover covered species.” *Id.* at 8.

within the project area), multiple stressors (many of which are not plan participants), overlapping and sometimes conflicting habitat requirements, and tremendous uncertainty both about the needs of the species and the likelihood of success of recovery strategies. The interpretation of the NCCPA set forth in the July 10th letter therefore poses a significant policy risk of deterring otherwise salutary applications of natural resources conservation planning.

## Conclusion

We conclude that the draft BDCP's establishment of biological goals and conservation measures that are based on the Plan's "potential to contribute to recovery" of the covered species complies with the Natural Communities Conservation Planning Act. We also believe that the CDFW may approve the Plan if it determines that the BDCP will ensure the survival of the listed species, fully mitigate the adverse effects of the project on all covered species and their habitat, and further the more general state and federal efforts to recover the species and to restore the favorable conditions of their habitat.

# Chapter 3: Water Supply Operations

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## Introduction

The construction of a new North Delta diversion facility, and the coordinated operation of the North and South Delta facilities constitute the first and most prominent conservation measure (CM#1) of the BDCP. While ostensibly a conservation measure, the new facilities are principally an effort to improve the reliability of exports from the Delta. Their operations, in conjunction with all other conservation measures, are intended to mitigate for impacts of the CVP and SWP, avoid jeopardy and/or to contribute to the recovery of covered species (Chapter 2).

A basic premise of BDCP is that the construction of the new North Delta diversion facility will simultaneously improve water supply reliability while reducing ecosystem impacts. This stems from the increased operational flexibility associated with two points of diversion located in different portions of the Delta. A presumed benefit of this flexibility is the capacity to take advantage of periods of high inflow for exports, allowing for reductions in exports during dry periods when impacts on the ecosystem may be largest. This is consistent with the co-equal goals expressed in the 2009 Delta Reform Act.

This chapter examines the water supply operations proposed under BDCP to evaluate 1) if there are significant changes in supply reliability associated with the project and 2) how these changes apportion exports in wet vs. dry periods. This description is foundational for the assessment of ecological and species-specific consequences of BDCP as described in subsequent chapters.

## Proposed Facilities and Operations

There are lengthy descriptions of the design and operation of new and existing water export facilities in the Administrative Drafts of the EIR/EIS and BDCP. The reader is referred to these documents for information. The centerpiece of the plan is the 9000 cfs capacity diversion in the North Delta that conveys water to the SWP and CVP export facilities in the South Delta through two tunnels.

## Regulatory Constraints

The operational criteria for the export facilities are both complex and highly constrained (Appendix A). As outlined below, these constraints *significantly reduce the operational flexibility of the facilities*. The current regulatory constraints include but are not limited to:

- SWRCB water rights decision D-1641: this includes standards for minimum monthly Delta outflow, salinity objectives at multiple Delta locations, location of X2 (the position of the 2 ppt salinity near the channel bottom), a maximum

export/import ratio objective<sup>1</sup>, closures of the Delta Cross Channel (DCC), placement of a barrier at the head of Old River, and flow standards for the San Joaquin River below Vernalis. These standards vary depending upon months of the year and water year type.

- Remanded 2008 USFWS Biological Opinion (BiOp): prescribes restrictions for magnitude and timing of reverse flows in Old and Middle River (OMR) in the South Delta, to protect delta smelt. These vary depending upon time of year, water temperature, flows on the San Joaquin River, and proximity of smelt. This BiOp also calls for higher spring and fall outflows that exceed D-1641 standards. These outflow standards vary on water year type.
- Remanded 2009 NMFS BiOp: has different restrictions on OMR flows than the USFWS BiOp. Reductions in reverse OMR flows are scheduled to protect outmigrating salmonids. These vary depending on temperature and inflow. This BiOp increased San Joaquin River flows and set export/San Joaquin River flow ratios that are more restrictive than D-1641.

There are other regulatory constraints beyond D-1641 and the two remanded BiOps; however, compliance with these regulations appears to dominate water supply export modeling. Additional constraints are based on proposed operating rules for both the North and South Delta facilities. The most significant include:

- Maintenance of minimum flows downstream of the North Delta facility (called “Bypass Flows”)
- Restrictions aimed to reduce reverse flows at the confluence between the Sacramento River and Georgiana Slough
- A tiered, three-level pumping regime for December through June that seeks to protect the initial winter flood pulse and spring pulses that affect juvenile salmon outmigration
- Flows with sufficient velocity to reduce impingement of salmonids at diversion screens
- Increased restrictions for reverse Old and Middle River (OMR) flows associated with South Delta exports.

### Infrastructure and Inflow Constraints

Infrastructure design and capacity forms another array of constraints. For the purposes of BDCP simulation modeling, south of Delta storage was limited to space within San Luis Reservoir. Operations during wet and above average conditions are often constrained by available space to store water in this facility. Expanding potential storage, particularly groundwater storage, would have created considerably more flexibility in exports, particularly during wet years.

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<sup>1</sup> BDCP treats the export/import ratio in two ways: 1) counting as “import” all inflows from the San Joaquin and Sacramento Rivers and Delta’s tributaries or 2) counting inflows as above, but counting flows below the North Delta facility as inflow. The latter approach seeks to exclude North Delta exports from D-1641 export/import restrictions. From an ecosystem perspective, this makes no sense since the North Delta exports are, in effect, exports from the legal Delta.



The size of the North Delta facility is also a constraint, principally during periods of sustained high flow on the Sacramento River in wet years. The preferred project has shifted from an initial facility size of 15,000 cfs to 9,000 cfs in the current plan. The export, economic and environmental performance of the 9,000 cfs facility is compared to 14 alternatives in Chapter 3 and 5 of the Draft EIS/EIR. These alternatives vary facility size, location and operations in the comparison. A narrative is presented in the EIS/EIR that describes the rationale for rejecting the 14 alternatives and selecting the preferred project<sup>2</sup>.

Exports are also naturally constrained by the timing and volume of inflows, with strong seasonal and interannual variation. One of the larger export challenges faced by BDCP is its location at the bottom of the system where flows enter the Delta. Upstream water management and consumptive use dominate inflows to the Delta over most years (Figure 3.1). These abstractions, which consume roughly ¼ of water that would naturally flow to the Delta, are beyond the control of BDCP, yet are the greatest operational influence on Delta inflows. Under BDCP, exports would be roughly equivalent to upstream consumptive use.

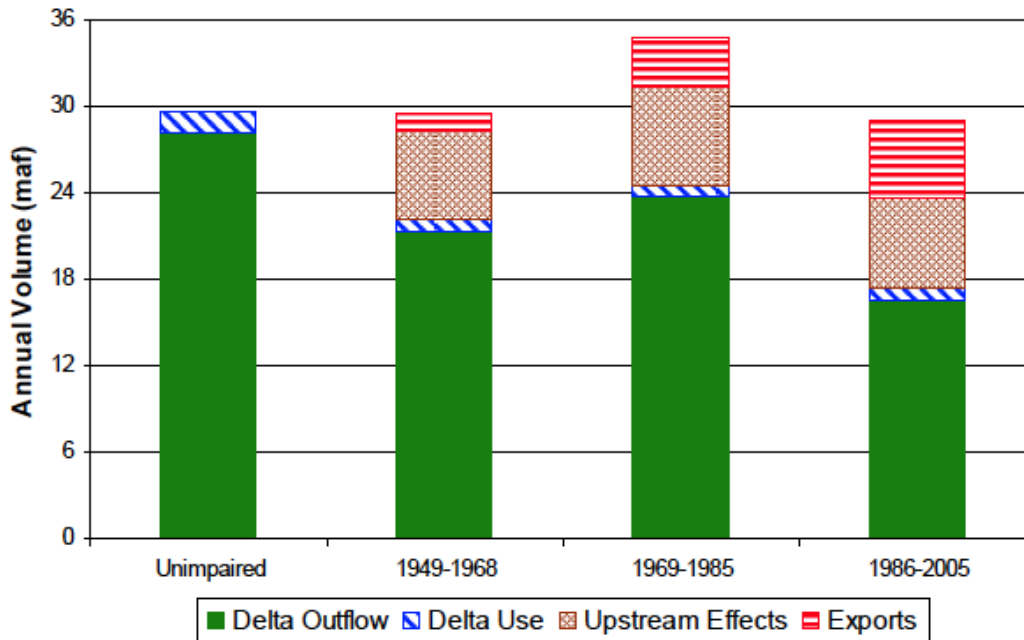
In addition, there are important restrictions on reservoir operations that constrain exports. The USACE has congressionally authorized rule curves that dictate Fall, Winter and Spring operations to maintain flood reserves. More importantly, there are BiOps that dictate flow and temperature requirements to meet the life history needs of covered salmon, steelhead and sturgeon below the dams. Meeting these standards, particularly in drier years and under a warming climate, limits the amount and timing of inflows to the Delta. Oroville Reservoir, which has fewer restrictions on flows, becomes the most important for supporting Delta inflows as a result, particularly during drought conditions (see below).

### Consequences of Constraints

The above discussion is intended to highlight a conundrum that is not discussed much outside of the BDCP community of experts and is not examined in the Plan: export operations and operations to support conservation are *highly* constrained. These regulatory, operational and infrastructure constraints limit the ability of BDCP to adaptively manage operations to support co-equal export *and* ecosystem objectives. For this reason, the anticipated management associated with the new diversion facility is not fully realized.

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<sup>2</sup> It is beyond the scope of this review to examine facility size in detail. In general, the analyses offered in the EIR/EIS conclude that the 9000 cfs facility provides the optimal balance of cost and flexibility. The additional capacity of the 15,000 cfs facility is rarely used in the operations that they modeled, leading to a very modest increase (<250 taf) in overall exports. The EIS/EIR did examine smaller facilities with capacities of 6000 and 3000 cfs. However, the operating criteria used to evaluate these two alternatives are not comparable to those of the preferred alternative, making the comparison moot.



**Figure 3.1 Proportional Delta water use. Exports constitute roughly 18% of the total unimpaired flow of the Delta in the 1986-2005 hydrology, with upstream consumptive use approximately 24%. From Fleenor et al. (2010).**

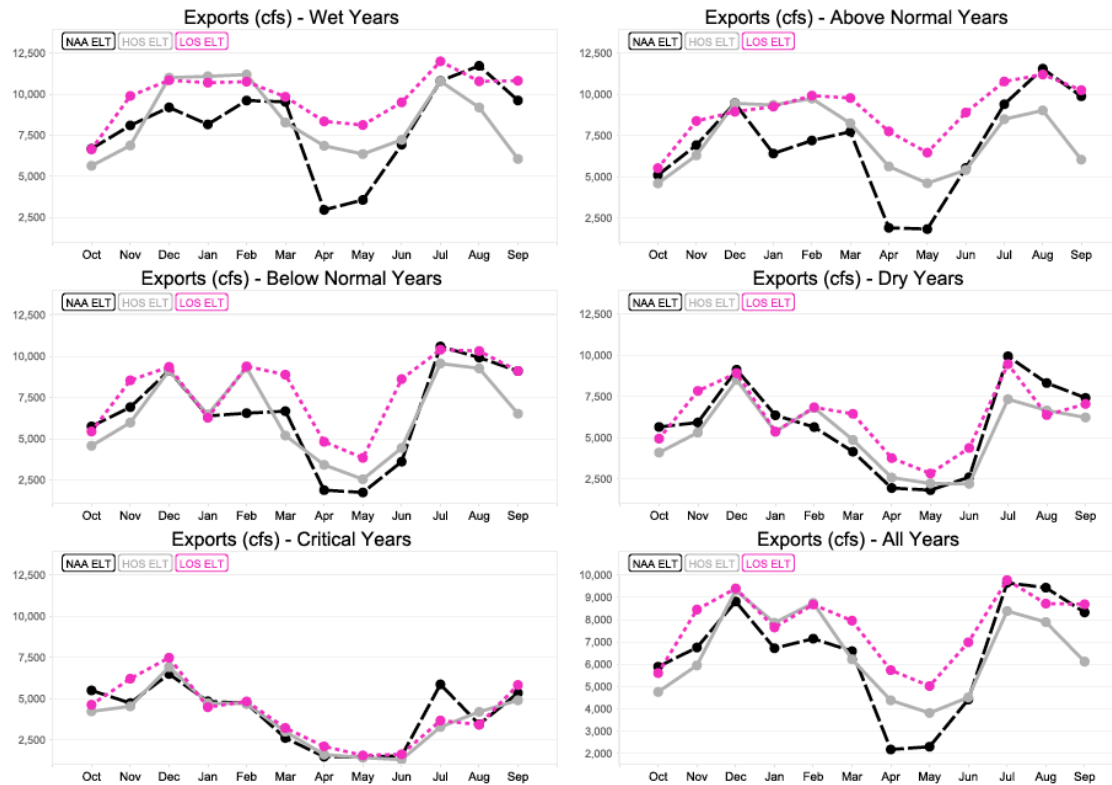
This also highlights how flow management in BDCP was developed using system models. As described in Appendix 5C of the Plan, the models sought to meet the requirements of D-1641, the remanded BiOps, reservoir and diversion facility constraints, and south of Delta storage. The objective function was then to maximize Delta exports within those constraints. Although this seems logical, it highlights how CM1 is not a conservation measure, per se. Rather than doing a bottom-up assessment of ecosystem flow needs, as is typically done when setting environmental flows, the modeling sought to meet current regulatory requirements and flow constraints sought by fish agencies. This illustrates one of the key points made by Lund et al. (2010) and Moyle et al. (2012) that multi-objective management of the Delta is likely to require a comprehensive re-evaluation of flow and water quality standards.

## Export Reliability

A goal of the BDCP project and the current Delta Plan is to improve reliability of water derived from the Delta for consumptive uses<sup>3</sup>. Using model simulations provided by BDCP consultants, we have evaluated how well BDCP meets the goal of improving export reliability. The most commonly discussed aspect of BDCP—

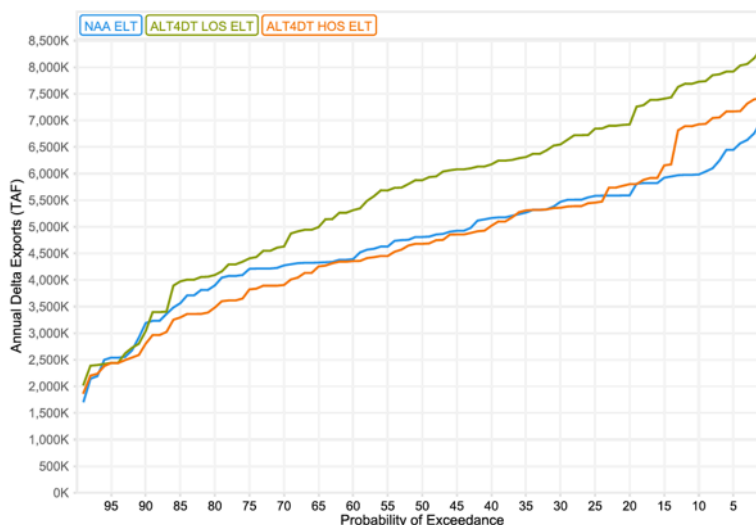
<sup>3</sup> In actuality, the most reliable system would provide a given amount of water each year with the smallest deviation from that amount. Instead, BDCP attempts to produce the most water in any given year under the given regulatory and operational constraints. This produces a more *resilient* water supply systems, whereby the greatest volume is made available, even under the event of catastrophic salinity intrusion into the Delta. The terms resilient and reliable are used interchangeably in BDCP and other documents.

average annual export—is summarized in Figure 3.2, and compares the no-project alternative, NAA with the high outflow scenario, HOS and low outflow scenario, LOS (defined in Chapter 1). This modeling suggests that the HOS and NAA would provide roughly equal average exports, with the LOS providing approximately 700 taf more. However, these figures are an average over an 82-year simulation period and offer little information about reliability.



**Figure 3.2: Monthly averaged exports for NAA, LOS and HOS under ELT conditions. Based on BDCP CALSIM data.**

Exceedance curves (Figure 3.3) give a better indication of reliability. This approach provides the probability that a given export volume will be equaled or exceeded in any given year. For example, for the 50% exceedance probability (meaning one out of every two years), the NAA performs slightly better than the HOS, but much worse than the LOS. Overall, the LOS performs significantly better than NAA in six out of ten years and better than the HOS in eight out of ten. The HOS is outperformed by the NAA in five out of ten years (drier) and appears to only provide significant water supply benefits over the NAA in one out of ten years (wettest). The conclusion is that export reliability for the HOS and NAA are not substantially different, while reliability for the LOS is markedly higher.



**Figure 3.3: Exceedance probabilities for NAA, LOS and HOS exports under ELT conditions. Note that LOS produces higher exports for all probabilities, suggesting that it is the most reliable/resilient of the scenarios.**

Water supply reliability curves for SWP and CVP customers are presented in Chapter 5 of the Draft EIS/EIR. These curves indicate that south-of-Delta municipal and farm users would realize considerable increases in overall reliability of supply under the LOS, compared to the NAA and HOS, particularly in above average and wet years. North-of-Delta users of CVP water would likely see a decrease in reliability over the long term, principally due to climate change.

## Export Timing

A goal of BDCP and the Delta Plan is to shift exports to wetter years and to reduce pressure on drier years. A comparison of the average exports of NAA, LOS and HOS for all five year-types is presented in Figure 3.2. Based on the modeling data provided, there appears to be a significant increase in LOS exports in above average and wet years as compared to the NAA, with HOS intermediate between the two. This increase is accomplished through increased use of the North Delta facility during winter and spring periods when OMR restrictions most strongly impact South Delta operations.

Below average, dry and critical dry year performance of BDCP is mixed (Figure 3.2). For LOS, overall exports during the drier years are higher than the NAA, while HOS exports are roughly the same as NAA. Exports, on average, for both the LOS and HOS tend to be higher than the NAA in the winter and early spring, and lower during the summer. This minimal change in exports during dry years stems, in comparison to wet years, from the constraints on North Delta facility operations. As is illustrated below, during dry periods the North Delta facility is used very little, creating pressure on South Delta facilities.

In sum, although there are many regulatory and infrastructure constraints, BDCP does make use of the dual points of diversion to create modest increases in wet year exports and, depending on which export scenario is evaluated, equal to or greater exports in drier years. *BDCP therefore does not achieve the broader goal of reducing pressure on the Delta during dry years by shifting exports to wet years.*

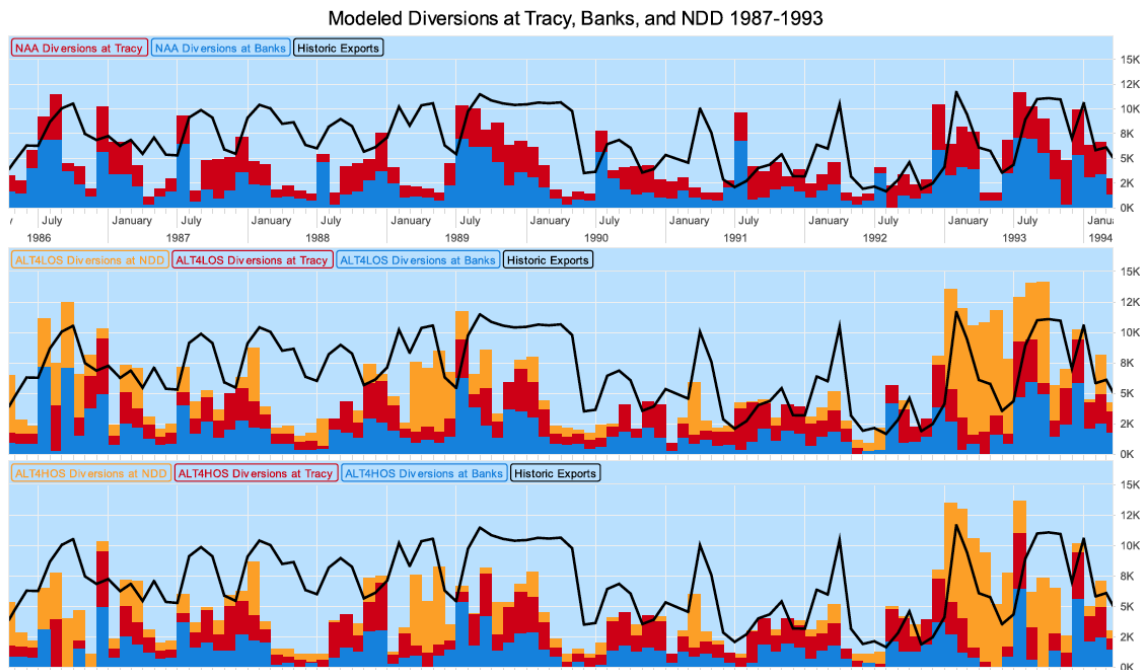
## Drought Performance

In the draft Plan and EIR/EIS, export performance of BDCP is summarized by presenting averages, typically linked to water year-types based on the Sacramento 40-30-30 index. Averaging fails to fully reflect how the system might be operated, however, because the complex rules governing operation can create significant year-to-year variability in exports (although see concerns over model uncertainties described in Chapter 1). This issue is particularly acute during multi-year droughts, when carryover storage in reservoirs is greatly reduced and demand increases significantly. To better illustrate how this system might perform we examined time series of model outputs during drought periods.

There were two six-year droughts during the 20<sup>th</sup> Century that fall within the time period used for hydrologic simulations: water years 1929-34 and 1987-92. We focused on the 1987-92 period of record for evaluation because it has historical export data for comparison and facilities that are comparable to today. As shown in Figure 3.4, overall export timing and magnitude during the six-year drought were roughly the same for the NAA, LOS and HOS, with LOS performing marginally better for exports throughout the drought<sup>4</sup>. The significant exception to this pattern is in the one year in that sequence, 1989, where modest inflows to the Delta occurred in the winter. Once bypass flow criteria were met, the flexibility created by the North Delta facility was able to take advantage of these inflows during a period of high restrictions on South Delta pumping to protect smelt.

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<sup>4</sup> Figure 3.4 highlights one of the issues not discussed in BDCP documentation. The environmental baseline for the BDCP assessment was determined to be the remanded BiOps, with provisions of one of the BiOps (high fall X2 flows in above normal and wet years) yet to be enacted. By choosing this as a baseline, the plan does not provide a comparison with how the project was actually operated under historic conditions. This administrative decision to only compare proposed operations with the remanded BiOps masks the striking differences between historic export operations and those proposed under BDCP.



**Figure 3.4: Exports for NAA, LOS and HOS under ELT conditions simulated for the 1987-92 drought, with historical exports are plotted for comparison. Important to note that ELT conditions take into account minor changes in climate and sea level rise by 2025 and cannot be compared specifically with historic conditions. In addition, historic conditions reflect human behavior; simulated conditions are guided by algorithms that do not account for human behavior.**

### Role of Reservoirs in Drought Management

Reservoir storage and operations play a critical role in drought management in California and greatly influence the timing and magnitude of Delta exports. The CALSIM modeling conducted for BDCP manages reservoirs within operational constraints described above and in detail in Chapter 3 of the Plan. The Plan makes it clear that the plan area does not include these reservoirs. Existing and future BiOps will govern their operations, not the terms of the HCP/NCCP permit. Despite this, the plan does envision significant changes to the operations of Oroville Reservoir under BDCP.

The 1987-92 simulated operations of the three most important reservoirs—Shasta, Oroville and Folsom—are shown in Figure 3.5. These simulations have important biological implications that are covered in later chapters. For water supply reliability, there are several important observations:

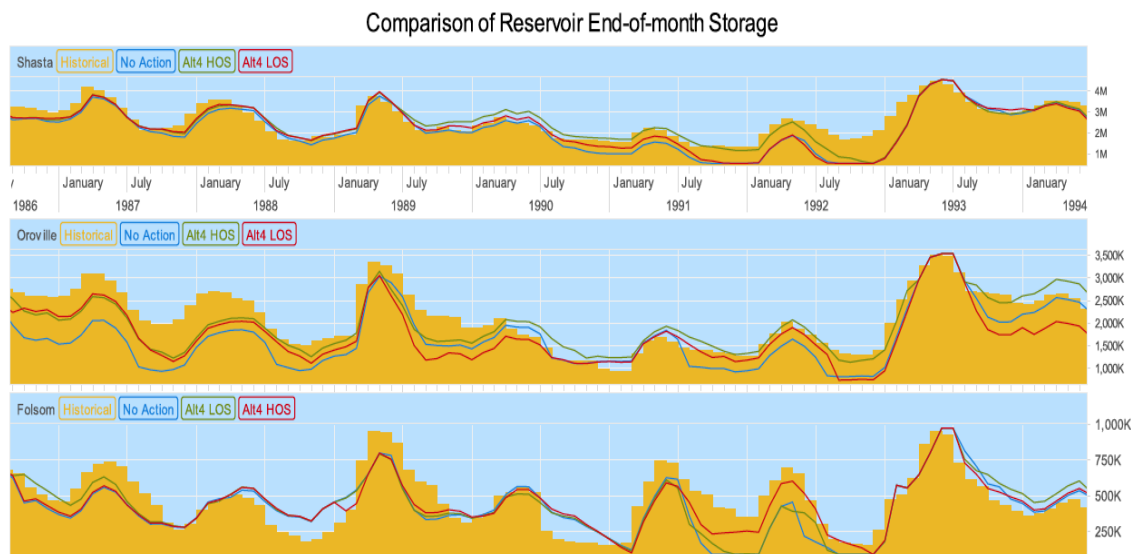
- As noted by the BDCP documentation, the NAA puts a great deal of pressure on upstream reservoirs to meet flow requirements, with Oroville providing most of the operational flexibility. In comparison to historic operations, the NAA significantly reduces storage, and thus carryover, in Shasta and

Oroville, but has limited impact on Folsom, with the exception of the last two years of drought.

- Under NAA all three reservoirs are at or near dead pool for the last two years of the drought cycle. Had water-year 1989 been closer in runoff to the other drought years, dead pool conditions would have occurred for the last three years of the six-year drought. Although a statement of the obvious, dead pool limits flexibility in managing water supply and ecosystem needs, both immediately downstream and in the Delta. This is likely to be of greatest concern for managing flow and temperature needs of winter- and spring-run Chinook salmon, particularly under warming climate conditions. Changes in flow releases to meet the needs of listed salmon are highly likely to impact export operations during dry periods. BDCP recognizes this as a concern but does not analyze the likely effects.
- A surprising result of the simulations is that HOS drought operating procedures are more protective of reservoir storage than either NAA or LOS. In an extended drought, storage is more aggressively allocated to either outflow (NAA) or exports (LOS), with both increasing the risk of creating dead pool conditions. This suggests that HOS operating criteria designed to protect smelt, may also do a better job of protecting upstream conditions for salmonids and sturgeon by increasing carryover storage. This, in turn may inadvertently improve water supply resiliency during drought.

It is important to note that a time series analysis of one extended drought within a single simulation record does not give guidance on how the system is likely to perform in all future droughts. Each drought is different, with different storage (reservoir and groundwater) conditions at the start, different precipitation and temperature patterns, and different regulatory or operational responses. To test the above observations more thoroughly, a range of six-year drought scenarios, should be simulated and analyzed. Given that most climate models prescribe an increase in frequency and duration of drought, this anecdotal assessment highlights an issue that is likely to occur during the life of the project and have significant impacts on supply as well as ecosystem management.





**Figure 3.5: End of month storage for HOS, LOS and NAA under ELT conditions simulated for the 1987-92 drought. Historical storage (yellow histogram bars) is plotted for comparison. During the latter stages of the drought, dead pool conditions occur on all three reservoirs. Note that ELT conditions take into account minor changes in climate and sea level rise by 2025 and cannot be compared directly with historical conditions.**

## Conclusions

The project described in the Draft BDCP and the accompanying Draft EIR/EIR seeks to improve water supply reliability for water exported from the Delta while improving conditions for covered species. An underlying premise for the effort is that adding a second point of diversion, the North Delta facility, operated in conjunction with existing South Delta facilities will allow for more flexible export operations that better support environmental goals and objectives. In concept, this approach appears reasonable and should provide significant flexibility. In practice, however, regulatory and infrastructure constraints, coupled with high upstream consumptive uses of water, severely limits flexibility in operations. These highly constrained operations limit the effectiveness of BDCP in improving water supply reliability.

One of the objectives of BDCP that is in line with those of the Delta Plan is to increase exports during wet periods and decrease them during dry periods when impacts on the ecosystem are greatest. In comparison to the no project alternative, the new facility appears to achieve the former to a modest degree, but it does not significantly reduce pressure on the Delta during drier periods.

The proposed system is particularly vulnerable to extended drought periods (3-6 years). The NAA and LOS lead to dead pool conditions in upstream reservoirs after 3-4 years of drought. This decreases water supply reliability during dry periods and,



as discussed in later chapters, places at risk species dependent upon reservoir releases, particularly cold water pool releases. This problem is likely to be particularly acute as climate changes. The surprising result from the model outputs is that the high outflow scenario, principally designed to improve conditions for smelt in the Delta, leads to improved carryover in upstream reservoirs that, in turn, improves year to year water supply reliability and allows for greater flexibility to manage reservoir-dependent species.

The hydrologic modeling effort for BDCP is unprecedented and heroic. However, the tools available for this modeling do not match the information demands. In addition, the plan documents do not do an adequate job of quantifying model uncertainties, particularly those caused by exchanges between 1-, 2- and 3-dimensional models, uncertainties over future conditions, and regulatory behavioral uncertainties . New tools will be needed going forward.

# Chapter 4: Environmental Flow Performance: Upstream and Inflows

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## Introduction

The focus of the BDCP is principally on the legal Delta and adjacent Suisun Bay and Marsh, where export operations have the most direct impact on covered species. As discussed in Chapter 3, upstream management, including reservoir operations, consumptive uses of water, and flood management, play a critical role in inflow timing and volume. In this chapter, we examine how conservation measures #1 (water operations) and #2 (Yolo Bypass fisheries) meet conservation objectives that impact listed aquatic species.

The focus of this chapter is on the environmental performance of proposed flow changes in the Sacramento watershed, including the Sacramento, Feather and American Rivers, and inflows to the Delta through the Yolo Bypass and the Sacramento River. Although inflow from the San Joaquin River is important and a determinant of conditions in the South Delta, BDCP does not envision significant changes in flows. For this reason, our analysis is focused only on the Sacramento watershed.

Performance, as used here, is how well actions proposed by BDCP are likely to meet the goals and objectives of the plan. Although there are many issues discussed in the Plan for the Sacramento system and covered species, there are three central flow performance concerns: changes in reservoir release timing and magnitude and its impact on anadromous fishes; modifications to Fremont Weir and its benefits for floodplain habitat for outmigrating salmonids; and near- and far-field effects of North Delta diversion operations.

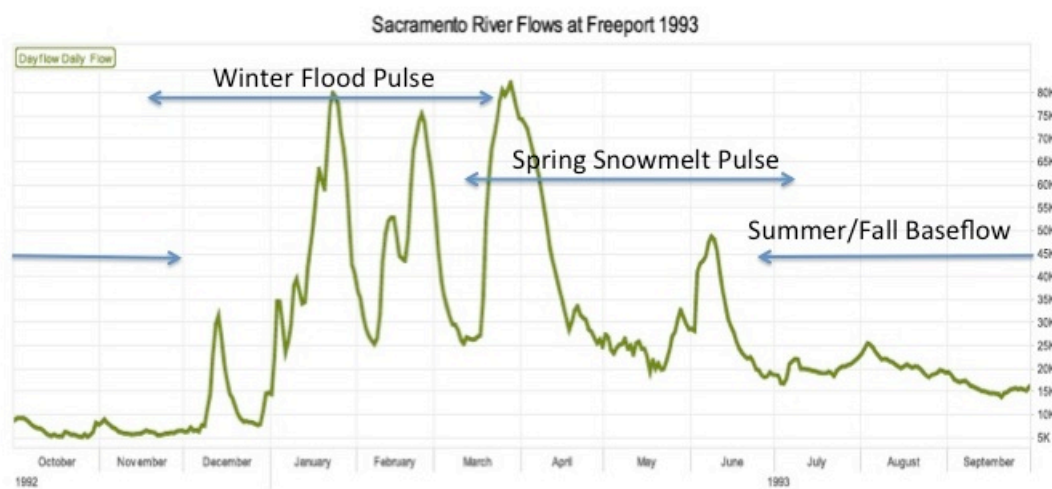
## Impaired Flow in an Impaired System

One of the objectives of BDCP and the Delta Plan—and a concern of many NGOs—is to produce a flow regime with attributes that better support the life history stages of covered aquatic and riparian species. This objective is supported by a large body of national and international literature that has demonstrated how creating more natural flow regimes in highly regulated systems improves conditions for native species (see recent summary by Arthington, 2012). This issue has been at the forefront of controversial efforts by the SWRCB to develop a basin plan that addresses flows (Fleenor et al., 2010).

A flow regime that mimics natural seasonal variation is also considered by the scientific community in the Delta to be fundamental to better species management (Hanak et al., 2013). Restoring appropriate seasonal and intra-annual variability

involves re-establishing flow timing, magnitude, duration, frequency and rates of change that drive key ecosystem attributes that, in turn, support native species (Figure 4.1).

Although restoring elements of the natural flow regime is a worthwhile goal, it should be made clear that in the Delta and its tributaries there is little that remains natural (Bay Institute, 1998; Whipple et al., 2012). Added to these physical changes are profound shifts in biological conditions, including a Delta ecosystem dominated by non-native plants and animals (Lund et al., 2008; Baxter et al., 2010). For this reason, restoring a more naturally variable flow regime in an altered Delta and its watershed, while necessary for improving conditions for covered species, is unlikely to lead, by itself, to their recovery (Mount et al., 2012).



**Figure 4.1: Unimpaired Sacramento River flow at Freeport for WY 1992-3 based on DAYFLOW data (DWR). This illustrates the range of natural seasonal variability in flow. Reproduction or migration of aquatic and riparian species are tied to timing, magnitude, frequency, duration and rate of change of flows. Flows, particularly winter and spring flood pulses, are necessary for geomorphic processes that support various life history stages. Flow regulation and land reclamation have significantly altered flow regime (see text for discussion).**

In this chapter we sought to evaluate BDCP’s potential impact on flow regimes upstream and into the Delta. It is infeasible—if not inappropriate—to reconstruct natural flow in the Central Valley given the significant changes in the landscape. Instead, we use *unimpaired flow* (DWR 2007) as a proxy for a more naturally distributed flow regime<sup>1</sup>. Unimpaired flow is the volume of water that would flow by a given point if no upstream impoundments or diversions were in place. Estimating

<sup>1</sup> We focus here principally on the rivers that feed into the Delta rather than the Delta per se. An assessment of changes in outflow that occurs in response to changes in operations is contained in Appendix B.

unimpaired flow is complicated and imprecise, yet is important in setting flow and water quality targets, particularly by the SWRCB. It involves aggregating unimpaired and unregulated runoff from multiple basins that flow to the Delta. Unimpaired flow ignores surface water-groundwater interactions and storage or conveyance of flow in channels, floodplains and wetlands. For this reason, it is not a useful proxy for flow regime on daily time steps, but can be used as an imperfect proxy for annual and monthly flows. We follow that convention in this analysis.

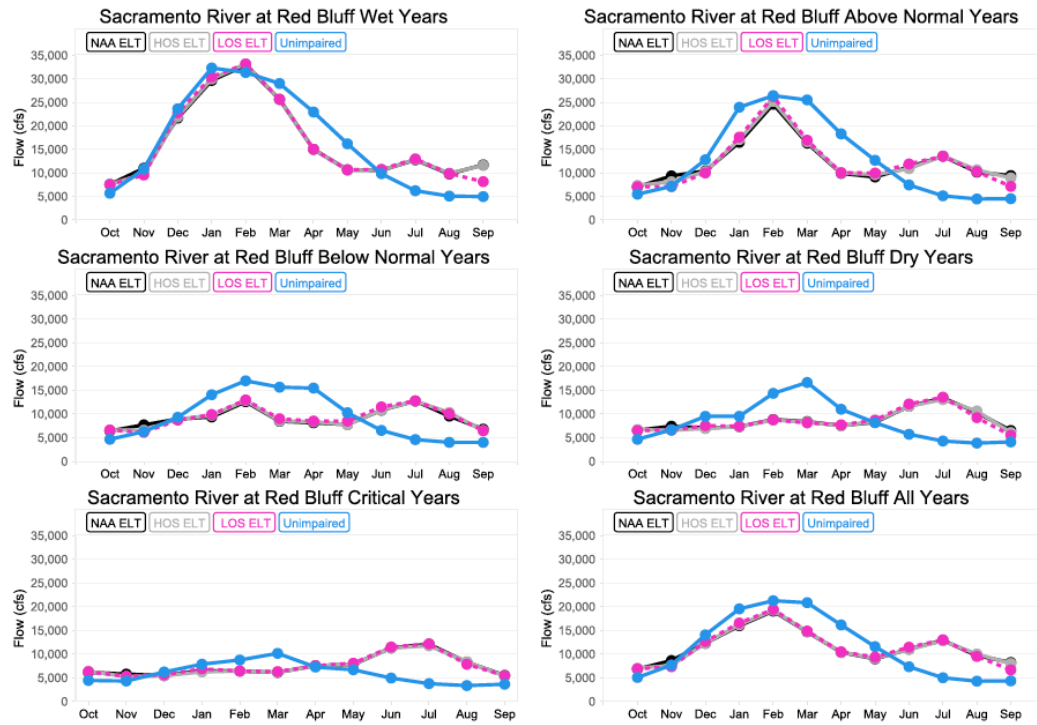
This simplified approach should not be over-interpreted. It is used to assess whether BDCP meets the overall goal of improving ecological conditions by creating a more natural seasonally variable flow regime. It does not address all issues of concern for listed fishes, such as winter- and spring-run Chinook salmon whose primary limitation is due to loss of upstream spawning and rearing habitat and high temperatures in existing channel habitat (Williams, 2006, 2009).

## **Main Rivers of the Sacramento Valley**

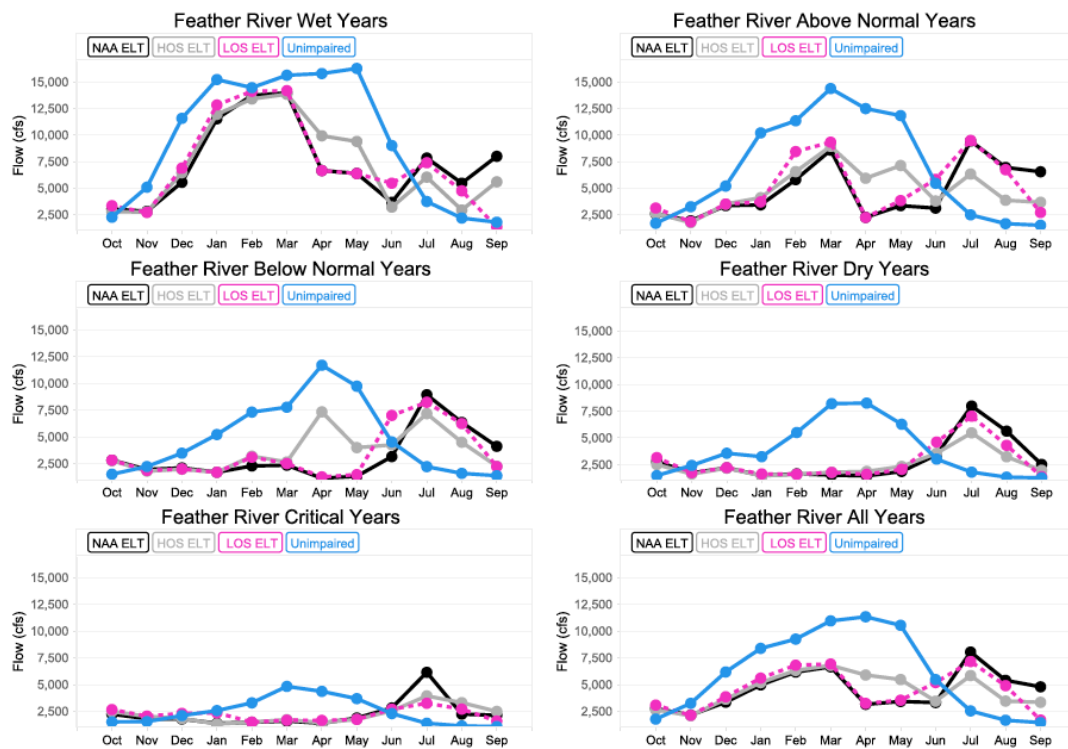
Multiple biological goals and objectives of BDCP are associated with flow conditions on the Sacramento River and its two main tributaries, the Feather and American Rivers. All anadromous fishes covered by BDCP rely directly on these river systems for spawning, rearing and migration. As noted in Chapter 1, we focus here principally on winter- and spring-run Chinook since the BiOps that cover their life history needs have the greatest impact on water operations.

With the exception of proposed changes to the Fremont Weir and the Yolo Bypass (CM#2), BDCP does not envision making significant investments in improving physical habitat upstream of the Delta, or addressing other stressors such as hatcheries, contaminants or harvest procedures (see summary in Williams, 2006, 2009). For this reason, most of the impact of BDCP on the Sacramento River and its tributaries upstream of the North Delta facilities will be associated with changes in flow releases from the three major reservoirs: Shasta, Oroville and Folsom.

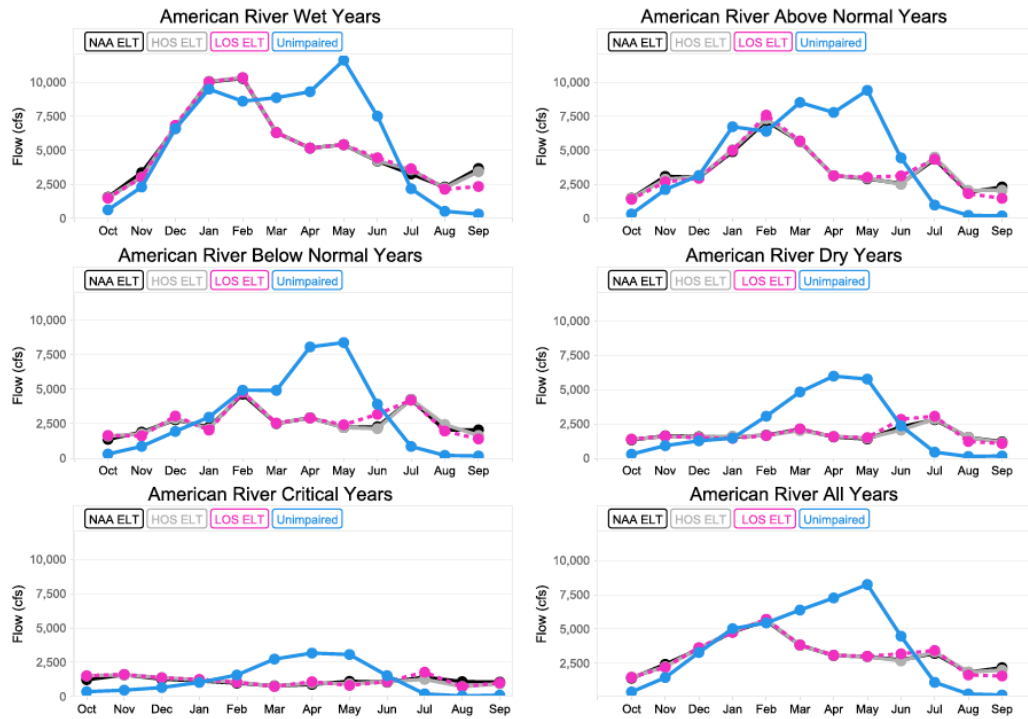
Simulated average flow conditions affected by changes in reservoir operations under BDCP are summarized in Figure 4.2A-C, including Sacramento River at Red Bluff, Feather River below Oroville Reservoir, and American River below Folsom. These flows, along with all other tributaries, aggregate to form the Freeport flow (Figure 4.2D) and the Yolo Bypass. These results include NAA, LOS and HOS flow scenarios and unimpaired flow under the five year-types based on the Sacramento River wetness index.



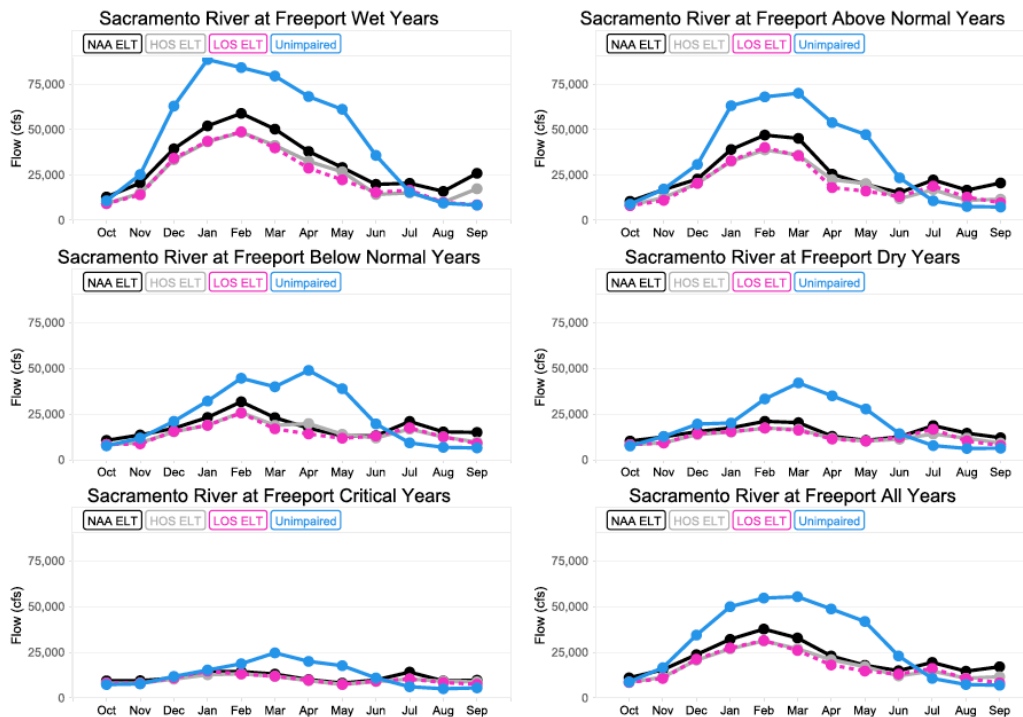
**Figure 4.2A: Sacramento River at Red Bluff.**



**Figure 4.2B: Feather River.**



**Figure 4.2C: American River.**



**Figure 4.2D: Flow at Freeport. Figures 4.2A-D. Monthly averages sorted by water year types for HOS, LOS, NAA and unimpaired flow. Unimpaired flow is based on current conditions and HOS, LOS and NAA are ELT conditions. See text for discussion. Data from BDCP CALSIM simulations.**

As noted in Chapter 3, the constraints on reservoir operations are significant due to temperature and downstream flow requirements, based mostly on the 2009 BiOp. For this reason, the differences between scenarios are not large. However, a comparison of the impaired and unimpaired flow data allows for several general conclusions about the impact of BDCP on key attributes of Sacramento Valley flow regimes:

*Winter Flood Pulse.* With the exception of the American River, the winter flood pulse is significantly reduced over unimpaired conditions in the Sacramento Valley. The magnitude of this reduction reflects the size and operations of upstream impoundments relative to the total runoff of the watershed. The most dramatic impairment of winter flood pulses occurs on the Feather River where the pulse is virtually eliminated in most years. There are no substantive differences between LOS, HOS and NAA operations for winter flood pulses. The winter flood pulse is marginally higher under NAA at Freeport, but this reflects more frequent flows down the Yolo Bypass.

*Spring Snowmelt Pulse.* The rise and gradual recession of flow in the spring is, next to low baseflow conditions in the late summer, the most predictable element of the Sacramento Valley flow regime and is of high biological significance. As shown in Figures 4.2A-D, the spring snowmelt pulse is highly impaired due to impoundments and flow diversions. With the exception of the Feather River, there are no substantive differences between HOS, LOS and NAA impacts on the spring snowmelt pulse in the Sacramento Valley. On the Feather, HOS flow operations designed to improve spring outflow in the Delta, lead to significant improvement in spring conditions in all but dry and critical year types.

*Summer/Fall Baseflow.* The timing and magnitude of reservoir releases dominates the summer/fall flow regime of the basin (Figure 4.2A-D). These releases are to meet the complex array of temperature and flow requirements downstream of the dams, irrigation demands upstream of the Delta, inflows to meet export demands, and outflows to meet water quality and habitat standards. Summer/fall baseflow flow regimes are highly altered with flows three to five times higher than unimpaired flows. With the exception of the Feather River, BDCP does not change summer/fall baseflow conditions. Under HOS and LOS simulations, the summer flows on the Feather are reduced, creating marginal improvement in flow regime.

**Main Rivers Summary.** The plan area for BDCP is, by design, limited in scope. The same applies to its conservation measures. The project Plan documents make it clear that operations of the CVP and SWP reservoirs are governed by BiOps or FERC licenses, and not BDCP. In addition, they note limited flexibility in reservoir operation due to cold water pool management, particularly on Shasta and Folsom Reservoirs. In this way, the reservoirs are in effect another constraint on BDCP (Chapter 3), rather than an asset for management.

Yet operations of these reservoirs greatly impact winter- and spring-run Chinook habitat downstream. As shown above, these operations contribute to the significant



impairment of flows of the Sacramento River and its major tributaries and are a challenge when trying to meet the biological objectives of BDCP. Additionally, these dams block access to holding, spawning and rearing habitat that has far-reaching effects on winter- and spring-run Chinook salmon populations (Williams, 2006, 2009). These dams also support mitigation hatcheries whose operations may be contributing to harm of native salmon (Moyle et al., 2011).

It is unclear to us how to disentangle the relationship between the impacts of BDCP—a project designed to meet CVP and SWP water supply needs and an array of associated biological goals and objectives—and operations of SWP and CVP reservoirs. It seems logical to include these reservoirs in BDCP and operate them, along with the new facilities, under a single HCP/NCCP. The modest improvement in Feather River flows notwithstanding, the result of this administrative separation is, in effect, to maintain the status quo for the highly impaired flows of the Sacramento system.

## **Yolo Bypass Flows**

One of the more prominent conservation measures (CM#2) of BDCP is the modification of the Fremont Weir to promote increases in the frequency of winter and early spring inundation of the Yolo Bypass. A well-established and growing body of evidence, involving monitoring data, field experimentation and, to a lesser extent, life cycle models indicate high benefit of floodplain habitat to foraging juvenile salmon (see BDPC documentation for a full summary). This stems from the use of high value, off-channel habitat by juveniles, who, under optimal bioenergetic conditions and low predation pressures grow at high rates, increasing their survivorship through the Delta. Fish that either forage on the Yolo Bypass and/or use it as a migration corridor will not be impacted by near-field effects of the proposed North Delta diversion facilities. Fish using the Bypass are also less likely to enter the interior of the Delta where predation pressures are high. Finally, juveniles that use the Bypass leave the Delta later in the season, increasing the likelihood of arriving at the ocean during higher upwelling periods with better food availability.

Currently flow onto the Yolo Bypass from the Sacramento River only occurs when the Verona gauge exceeds 55,000 cfs. Modifications to the Fremont Weir would allow 1,000 cfs to flow onto the floodplain when flow at Verona exceeds 25,000 cfs. Flow through the Weir would climb to 6000 cfs when the river approaches 55,000 cfs. Above 55,000 cfs flow into the Bypass would be similar to NAA conditions. In addition to allowing flood flows, the weir would be modified to allow 100 cfs attraction flows to a fish ladder to improve upstream passage of adult salmon, steelhead and sturgeon (passage issues not evaluated here).

The average annual flow of the Yolo Bypass is approximately 1.5 maf. Under NAA, HOS and LOS, this amount would not differ significantly since the majority of flow volume on the Bypass occurs when the Sacramento overtops Fremont Weir and the



Sacramento Weir (Figure 4.3). However, the timing, frequency, and duration of floodplain inundation—key elements of the natural flow regime--would change substantially with the proposed modification of Fremont Weir.

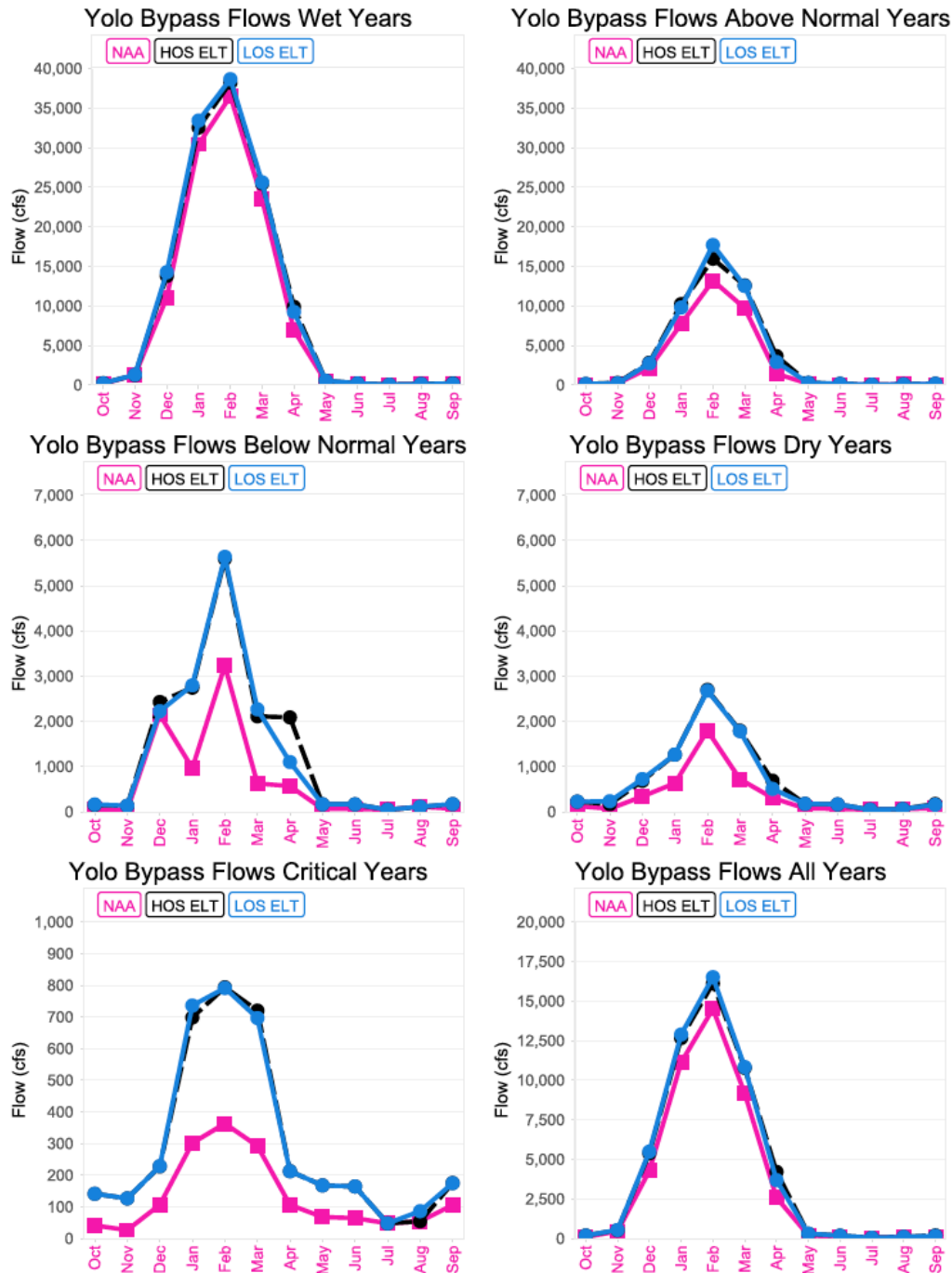


Figure 4.3: Average monthly flows for the Yolo Bypass under HOS, LOS and NAA under ELT conditions for different year types. Note changes in scale.

*Flood Frequency.* The frequency of inundation of the Bypass increases significantly under BDCP. Under current conditions there is a roughly 40% annual probability of flooding on the Yolo Bypass. Under BDCP this increases to more than 70% annual probability (BDCP statistics). The largest change occurs in drier years (Figure 4.3).

*Flood Duration.* Multiple studies have shown that flood duration, which allows for nutrient cycling and primary production, is essential for supporting juvenile salmonid foraging (Sommer et al., 2001; Williams, 2006, 2009). Modifications to Fremont Weir increase flood durations with high habitat benefits. Under current operations, flood durations aggregate to an average of 25 days per year. This would not change under NAA in the ELT. Under both HOS and LOS ELT this would increase more than three-fold to an average of 81 days per year.

*Flood Timing.* In addition to more frequent, longer-lasting flooding conditions, modifications to the Fremont Weir would expand the flood season, particularly in drier years (Figure 4.3). This expansion helps divert early migrants, such as winter-run Chinook salmon and later migrants, such as spring-run and fall-run Chinook, onto the floodplain. For example, based on BDCP data, we estimate that days of flooding above 1000 cfs on the Bypass will more than double in January and triple in April.

#### **Yolo Bypass performance for listed salmon**

Although CM#2 achieves the broader objective of improving the amount and quality of floodplain habitat, principally by restoring a more natural flow regime, it's effectiveness in supporting federally listed species of salmon (the focus of this review) is somewhat limited. The BDCP consultants modeled the overall benefits of the Yolo Bypass flows to out-migrating and foraging juveniles. For winter-run Chinook salmon, the benefits were modest with an estimate 1-8% increase in escapement. The limited benefit of the Yolo Bypass is, according to the BDCP model results, due to the small percentage of juveniles likely to be diverted onto the floodplain. This stems from the fact that most migration begins in December and January coincident with the first pulse flows of the season and does not coincide with peak inundation periods of the Bypass.

Greater benefit, albeit still limited, occurs for spring-run Chinook salmon. The bulk of juvenile out-migration takes place during the optimal months for floodplain inundation: February through March. However, two factors reduce the effectiveness of Yolo Bypass for spring-run according to BDCP documents. The majority of spring-run Chinook salmon come from hatcheries in the Feather River. Juveniles leaving the Feather are only diverted onto the Yolo Bypass during rare high flow events, leaving the Sacramento River as their principal migration route to the Delta. Naturally spawned fish in Butte Creek use the Sutter Bypass as their principal migration route. Like Feather River fish, they too only move access the Yolo Bypass during rare high flow events. Naturally spawned spring-run in Battle, Clear, Mill and Deer Creek pass Fremont Weir on their out-migration paths and will benefit most from likely access to the Bypass.

Second, according to BDCP models, most spring-run juveniles reach the Delta, and presumably the Yolo Bypass, as yearling smolts. In this stage, they are presumed by BDCP consultants to not take full advantage of the high quality foraging conditions of the Bypass, but use it principally as a migration corridor. BDCP consultants estimate that 90% of spring-run Chinook in the Yolo Bypass are migrants, rather than foraging fish. The BDCP consultants readily note that this proportion reflects the split between migrants and foraging characteristics in hatchery fish and may not be indicative of proportions of wild fish. Our consultation with several salmon biologists suggests that the distinction between foragers and migrants is arbitrary and likely does not reflect actual behavior of juveniles on the Bypass. In addition, there is emerging evidence that a high percentage of naturally spawned fish move out as fry and migrate during high winter flows (*pers. comm.*, P.B. Moyle, 2013).

The BDCP consultants used several approaches to model the effect of the Yolo Bypass on survivorship. They acknowledge that current modeling tools are not well-suited to this kind of analysis. They developed a simple bioenergetic model for floodplain rearing, but told the panel that they felt it did not fully capture the benefits of the Bypass, and that their estimates of survivorship were conservatively low. Despite these limitations the BDCP models along with a growing body of literature suggest that spring-run juveniles as well as winter-run juveniles that access the Bypass are likely to have significantly higher survival rates to Chippis Island and presumably higher adult escapement<sup>2</sup>.

### Yolo Bypass Summary

CM#2 has high potential to benefit a range of covered species. Its benefit for winter- and spring-run Chinook is muted due to outmigration timing (winter-run) or the structural difficulty in diverting Feather River and Butte Creek fish (spring-run) onto the Bypass. Yet even with these concerns, there are likely to be improvements in survivorship associated with an alternative migration corridor with high value foraging habitat. There is an adaptive management program being developed for the Yolo Bypass that will be incorporated into BDCP. This effort would benefit BDCP objectives by conducting experiments and modeling that test ways to improve access of listed salmon onto the Bypass. This can include modifications to the Fremont Weir or pulse flow releases that improve winter-run diversion. Along with modification of Fremont Weir, this program may also want to consider the potential for using the Sacramento Weir to divert Feather River and Butte Creek fish. Regardless, as outlined below, a more aggressive approach to developing an alternative migration corridor for winter- and spring-run Chinook is likely to be necessary to mitigate the effects of the new North Delta facility.

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<sup>2</sup> The focus of this chapter is on spring- and winter-run Chinook. There is very significant benefit to other covered species, particularly fall-run Chinook and Sacramento splittail that can take advantage of Yolo Bypass flooding more readily.

## North Delta Facility Impacts and Mitigation

The new point of diversion along the Sacramento River is likely to impact all covered fish that either use the main channel of the Sacramento for migration or rearing, or are indirectly affected by downstream changes in flow volume and timing. These impacts are some of the most difficult to assess due to uncertainties about design and operation of the facilities (no comparable facility exists to calibrate models) and the relationship between downstream actions, such as tidal marsh restoration, and flows. This section assesses BDCP's evaluation of near-field (adjacent to the facility) and far-field (downstream from the facility) effects.

### Near Field Effects

The preferred project involves the construction of three screened intakes along the left bank of the Sacramento River in the vicinity of the town of Hood. Each screen will be capable of withdrawing up to 3000 cfs. In our view, the BDCP consultants have properly identified the two main sources of near field effects of the facility on out-migrating salmonids: losses due to impingement on the intake screens and losses due to predation near the diversion. However, we are uncertain about the effectiveness of proposed mitigation for these effects.

To mitigate for impingement potential, the consultants propose real-time management of pumping regimes relative to channel flow in order to maintain approach and sweeping velocities that reduce contact with intake screens. This real-time management would be informed by upstream monitoring of outmigrants. This issue remains a high uncertainty for operations of the facility ("low certainty" in the parlance of BDCP). Conceptually, a good adaptive management and research program coupled with real-time management could reduce impacts. However, as of this writing, the specifics of this program are not provided by BDCP (see discussion in Chapters 8, 9 this report) and we are unable to evaluate how effective it might be.

A greater near field effect of the facility is the high likelihood of concentration of predators near the facility, with resulting losses of migrants and foragers due to predation. Predators take advantage of concentrated prey and velocity refugia at physical structures throughout the Delta (Vogel, 2008) and will presumably do the same at the North Delta intake facilities. The BDCP consultants use various modeling approaches to estimate potential predation losses, including comparison with estimates of losses at known structures such as diversion screens of the Glenn-Colusa Irrigation District. Estimated predation losses for juvenile winter run Chinook that pass the facility vary from as low as 1% to as high as 12% (we did not find statistics for spring-run Chinook salmon losses). The higher predation loss values would have significant population-level impacts on winter-run Chinook and would fail to meet objectives of BDCP. The consultants acknowledge high levels of uncertainty about predation effects at the facility. The solution, as with most issues with high uncertainty in BDCP, is to defer this to adaptive management of the project, including unspecified predator control programs and real time management

of flows. Based on our experience in the Delta, we consider this to be a significant, unresolved management issue.

### Far Field Effects

The North Delta facility is expected to provide an average of roughly half of the exports from the Delta. As outlined in Chapter 3, operations of the facility are highly constrained by flow and water quality regulations, upstream water use, reservoir operations and hydrology. The simulated operations of the North Delta facility are summarized in Figure 4.4, including a measure of the proportion of channel flow that is diverted.

There are significant seasonal and interannual variations in operation of the North Delta facility that will drive far field effects<sup>3</sup>. During wet and above average water years, pumping regimes are most aggressive, particularly during the summer and early fall when 25% to as much as 39% of channel flow is diverted. Diversions, as a percentage of channel flow, decline dramatically in below normal, dry and critical years. In addition, pumping regimes are highly protective of channel flow in December, reflecting the restrictions on exports to protect initial pulse flows for winter-run Chinook. As expected, the HOS scenario, designed to improve Delta outflow, results in the most protective pumping regime for bypass flows at the North Delta facility.

BDCP documents acknowledge that the reductions in bypass flow create multiple far field effects that impact listed salmon. These include reduced attraction flows for migrating adult salmon, increased losses of juvenile salmon migrants and foragers due to longer transit times to the Delta, and diversion into the interior Delta where predation and/or entrainment losses are high. These operations also affect total Delta outflow<sup>4</sup>.

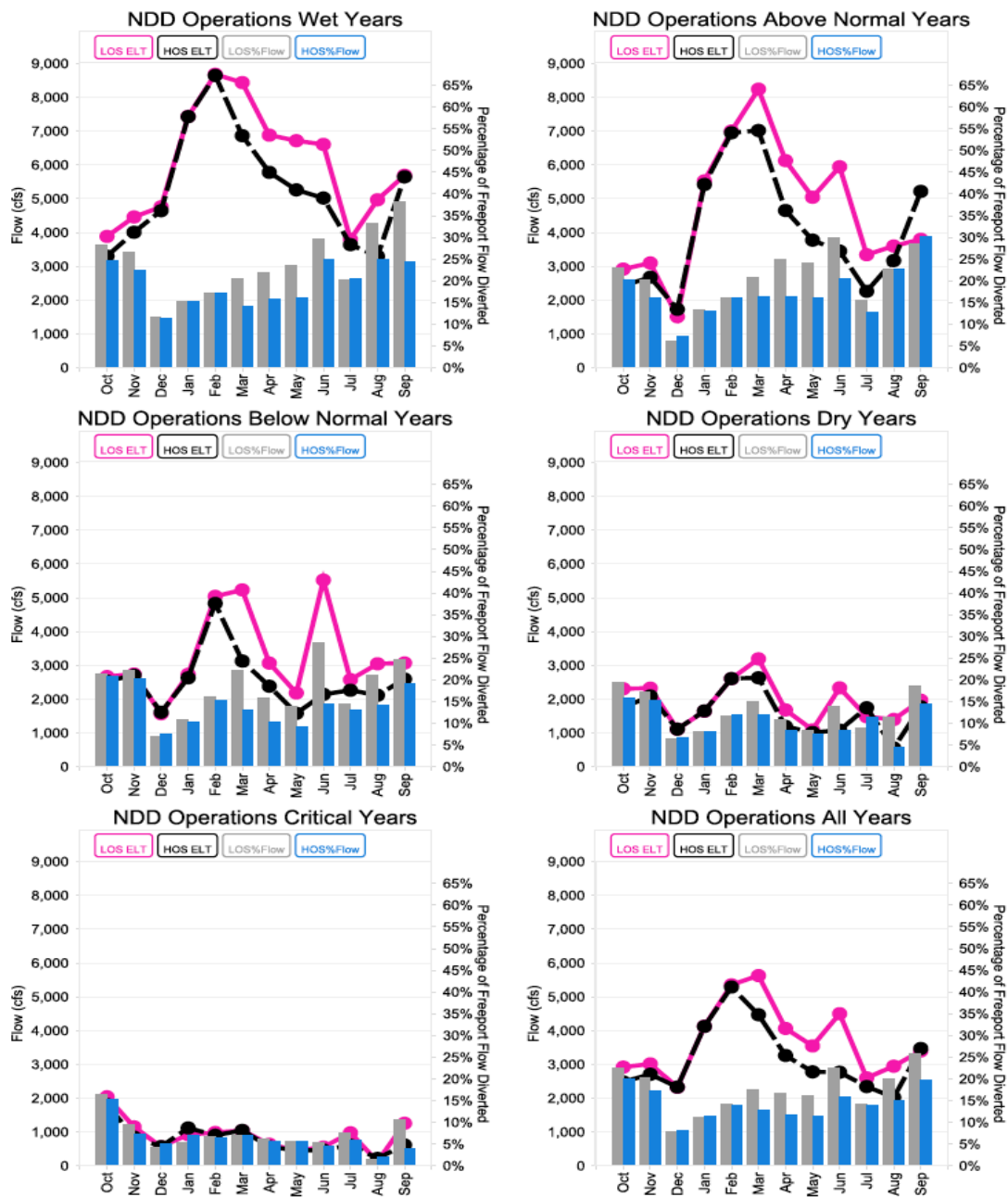
The BDCP consultants use multiple modeling approaches to address the far field effects of the North Delta facility. The main model used is the Delta Passage Model (DPM) that tracks smolt survival through the Delta. This model and others summarized in Appendix 5C of the Effects Analysis all draw the same conclusion: there is an increase in losses of winter- and spring-run Chinook salmon migrants associated with reduced flows in the bypass reach from Hood to Rio Vista. The magnitude of this impact varies depending upon year type (wetter years have reduced losses) and magnitude of flow reduction associated with pumping (up to 35% decreases in flows during some migration periods). These results are not surprising since there is a long-established relationship between transit time and

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<sup>3</sup> We did not evaluate the effects of size of the facility and its level of use. However, it is worth noting in Figure 4.4 how often average monthly exports approach facility capacity. Using a monthly average greater than 8000 cfs as an indicator of periodic use of full capacity, this only occurs in February and March in wet years and March of above average years. This is roughly 5% of the total months, suggesting that operational and regulatory constraints, rather than facility size, determine export volumes.

<sup>4</sup> Appendix B presents a summary of Delta outflow and the magnitude of impairment of flows from the Sacramento Valley. The latter uses a simplified impairment index.

survivorship for smolts leaving the Sacramento River (Newman, 2003; Perry et al., 2010).



**Figure 4.4. Average monthly export flows of North Delta diversion facility under HOS and LOS ELT for different year types, and percentage of total bypass channel flow exported.**

BDCP proposes to mitigate the increase in losses of smolts associated with far-field effects through six strategies:

- Tiered pumping regimes to reduce withdrawals during the initial winter flood pulse (described in Chapter 3)



- Real-time operational changes that reduce export pumping when monitoring indicates that large numbers of migrants have entered the reach upstream of the facility
- Flow management that reduces tidal reversals at Georgiana Slough, decreasing the likelihood of smolts diverting into the interior of the Delta
- Non-physical barriers at Georgiana Slough
- Reductions in entrainment at the South Delta facility due to reduced export pumping
- Increased diversion of foragers and migrants onto the Yolo Bypass
- Improved channel margin, floodplain and tidal marsh habitat to support foraging juveniles

The benefits of the last of these strategies—habitat restoration—are not captured in the survivorship modeling that was completed by BDCP consultants (see chapter 7 for a discussion). In addition, the models do not incorporate real-time operations adjustments since the scope and terms of these operations have yet to be determined. The remaining strategies are incorporated into models used to assess smolt survivorship. Closely examined, BDCP model results indicate that these measures, in combination, roughly offset the losses created by reductions in flows and increases in predation in the bypass reach, meeting the standard of mitigation. There is no indication that these actions would result in substantial improvement in conditions for listed salmon. This includes the Yolo Bypass, which provides significant benefits for other covered species.

#### North Delta Facility Summary

We have not had sufficient time or resources to conduct a detailed review of the models used to assess survivorship in the bypass reach and the effectiveness of mitigation efforts. Overall, most of the models used for near and far field impacts are standard Delta models. Model results seem reasonable and fall within the boundaries of current understanding. This suggests that they provide an acceptable first-order approximation useful enough as a basis for further analysis and adaptive management experiments.

We view the efforts to model the effectiveness of predator management and non-physical barriers as having high uncertainty. In addition, as noted, there is insufficient detail on real-time management to assess its likelihood for success. The flow modeling that was done on the bypass reach makes assumptions about tidal marsh restoration in the Cache Slough area. This restoration plays an important role in tidal energy and efforts to manage flow reversals at Georgiana Slough. We are uncertain about both the impact of this tidal marsh restoration and, if modeled correctly, whether the assumed restoration would be completed in the ELT. This same issue applies to the Yolo Bypass. Scheduling contained in BDCP suggests that the Yolo Bypass project would not be complete until after the North Delta facility. This lag in completion hampers efforts to mitigate for the project. At minimum, given the large uncertainties, it seems prudent to have all mitigation efforts in place and tested prior to initiating operation of the diversion facilities.

## Conclusion

To meet its biological goals and objectives, BDCP has developed 22 conservation measures. Two of these measures—CM#1, Water Operations, and CM#2, Yolo Bypass—are intended to create significant improvement in conditions for covered fishes by creating more natural flow conditions, improving fish passage and, in the case of the Yolo Bypass, improving floodplain spawning and rearing habitat. We focused our assessment on how CM#1 and CM#2 performed for winter and spring-run Chinook in this regard.

In general, we found that CM#1 does not significantly change the highly impaired flow regime upstream of the Yolo Bypass and Freeport, with the exception of an increase in spring flows on the Feather River under the HOS flow scenario (nor does it change outflows much as shown in Appendix B). BDCP proponents have made the strategic decision to focus principally on the Delta, rather than including CVP and SWP reservoirs that regulate flow into the Delta. This limits BDCP's effectiveness in its conservation measures since it does not address the major risk factors for listed salmon.

We found the increased frequency of flows into the Yolo Bypass to be an important step in restoring floodplain habitat. However, timing of outmigration and current design of CM#2 modifications limit the impact of this effort for listed salmon. The current adaptive management program underway for the Yolo Bypass needs to address this issue, including considering changing reservoir operations and alternative ways to divert fish into the Bypass.

Near field and far field effects of the North Delta facility have the potential to significantly reduce survivorship if not fully mitigated. Uncertainties over mitigation are high and will require a robust adaptive management plan. In our view, the Yolo Bypass program should be viewed as mitigation for the impacts of the North Delta facility on listed salmon. CM#2, along with all other mitigation efforts, need to be in place prior to operation of the facility.



# Chapter 5: In-Delta Flow Performance

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## Introduction

BDCP Conservation Measure #1 (CM#1) aims to restore more natural net flows (i.e. net seaward) within the Delta by adding a point of diversion upstream of the Delta:

Conservation Measure #1: “Construction and operation of the new north Delta intakes are designed to substantially reduce the incidence of reverse flow (Section 3.4.1.4.3, *Flow Criteria*) and restore a predominantly east-west flow pattern in the San Joaquin River. (Page 3.4-7, emphasis added).

This statement implies two classes of presumed effects that south Delta diversions induce through altered flows: direct effects whereby reversed flows in the south Delta contribute to entrainment of fish at the Delta export facilities, and indirect effects whereby changes in flow in the lower San Joaquin River are believed to alter the survival or migratory success of fish in the affected channels. Both of these presumed effects refer to net flows, which are determined by averaging out the substantial tidal flows that reverse direction twice daily. Although these net flows are small compared to tidal flows in much of the Delta, there is evidence that they can have substantial effects on some fish species.

In this chapter we evaluate changes in net flows in the Delta associated with changes in operations and the construction of the new facility. As in Chapters 3 and 4, we evaluate the differences between HOS and LOS scenarios and compare them to NAA, the no-action alternative. All of these analyses are in the Early Long-Term (ELT) shortly after the beginning of operations of the North Delta facility.

## Concerns over modeling

As noted in Chapter 1 of this review, we have concerns over the use and over-interpretation of the modeling data provided to us. In conducting our analysis for this chapter and the following chapter on impacts of outflows on smelt, we have relied on output from CALSIM under various scenarios. Our analysis revealed several apparent anomalies in model output. Although we received clear explanations of the origin of these anomalies from the BDCP consultants, we remain concerned that the model output is unrealistic for projecting actual project operations and the resultant flows. In particular, certain modeled conditions arise through artifact that provide substantial improvements in conditions for delta smelt. Thus, conclusions drawn on the basis of these models rest on an unreliable foundation. These concerns are focused on Delta outflow during fall and southward flow in the southern Delta during winter. These flows have been linked to habitat and survival of delta smelt.

## October

The USFWS Biological Opinion for delta smelt includes a fall X2 standard that applies following wet springs. Flows are usually low during this season so small variations in flow can have substantial effects on the location and area of the low salinity zone, and hence potentially on habitat conditions for smelt.

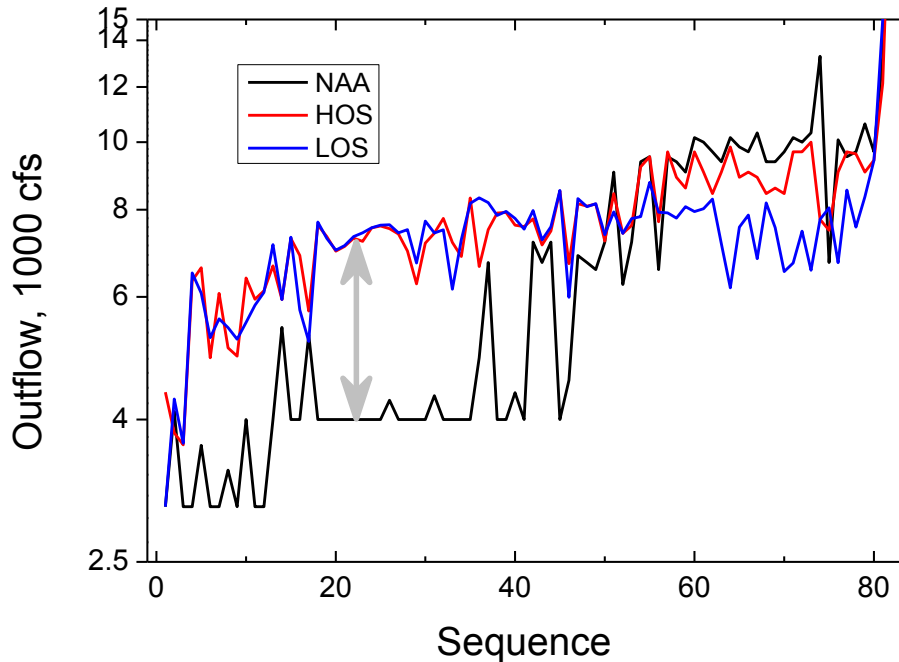
For various reasons X2 calculated by CALSIM differs substantially from that determined from outflow as in Jassby et al. (1995). We therefore focused on outflow as determined by CALSIM, rather than X2 as provided by BDCP modelers.

For this analysis we sorted flow data into a ranked series from lowest to highest values of Delta inflow under NAA. In Octobers of most years in the drier half of the series, outflow under HOS and LOS is up to twice that under NAA (Figure 5.1; median 77% higher for these 41 years). By contrast, during years of high inflow (right-hand half of Figure 5.1), HOS and NAA outflows roughly track each other, while LOS is much lower because the fall X2 requirement does not apply to that scenario. The anomaly occurring under dry conditions is not balanced by flows in other fall months. A few anomalies like those found in October crop up in November, but otherwise in those months either all three outflows track each other or LOS is lower.

To our knowledge there is no regulatory or operational requirement for reduced outflow under NAA or increased outflow under HOS or LOS in dry Octobers. Furthermore, there would be no reason to focus such a requirement in only one month if it were meant to benefit delta smelt, since they are present in the low-salinity zone from summer through fall. Outflow in fall can affect delta smelt recruitment so the modeled outflows can result in considerable differences in predicted recruitment under the three modeled scenarios (Chapter 6). We do not find these differences compelling because of a lack of a regulatory or other basis for the high outflows under HOS and LOS in dry Octobers.

## January

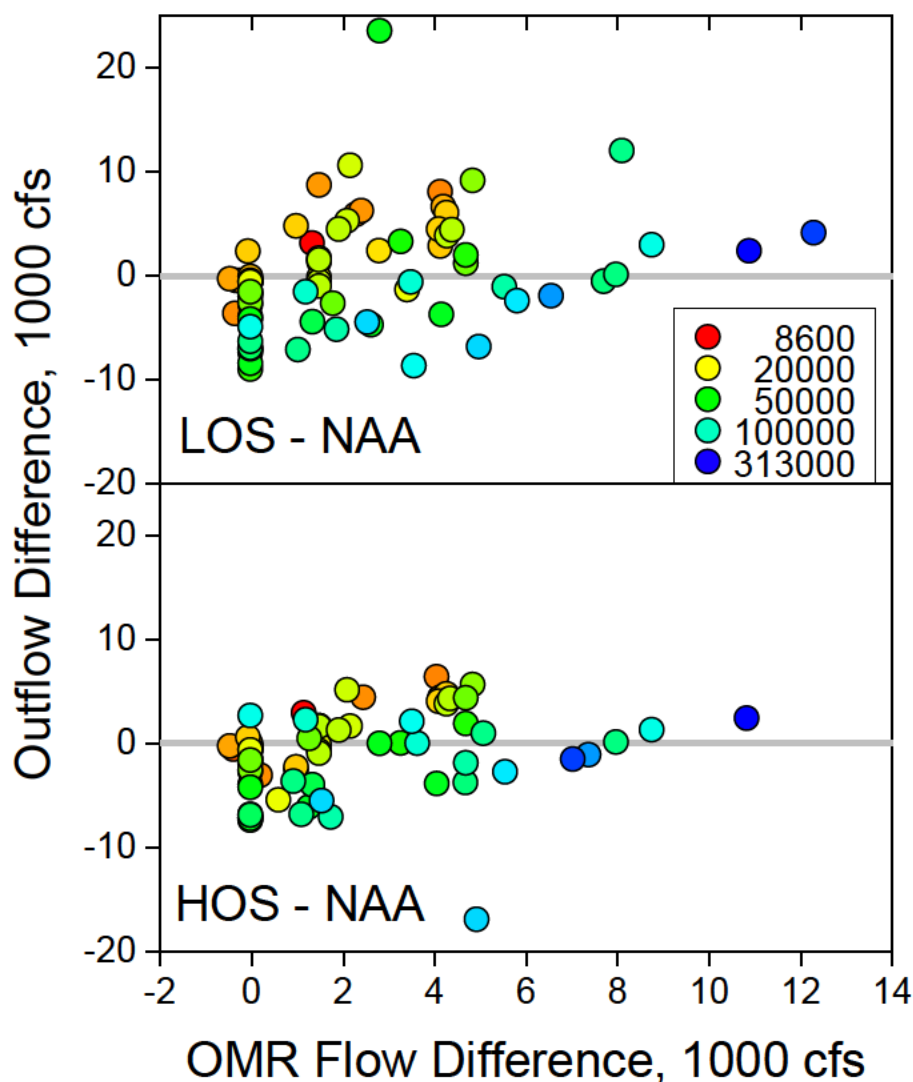
January has been the month of greatest adult delta smelt entrainment historically, so the modeled conditions in January can have large impacts on forecasts of adult survival. The CALSIM modeling included a requirement that OMR flows during January be zero in wet years, no more negative than -3500 in above-normal and below-normal years, and no more negative than -5000 in dry and critical years. However, no estimates of current year type are possible in January, and rather than presume perfect foresight or use information available up to that point the modelers chose to operate the simulated system for January using the requirements that applied to the previous year type. Because dry Januaries can follow wet years, this resulted in an anomalous condition in which requirements for wet years applied during dry Januaries.



**Figure 5.1. Net Delta outflow in October under the three scenarios sorted by inflow as determined by CALSIM under NAA; i.e., sequence 1 is the lowest inflow and 82 the highest. The gray arrow points out the region of interest where outflow under HOS and LOS is as much as double that under NAA. Outflow is plotted on a log scale to show proportional differences among scenarios especially at low flows, and because X2 can be modeled as a function of the log of outflow. The highest two outflows have been cut off to focus the figure on the lower values.**

As a result of this anomaly, the modeled scenarios (LOS and HOS) called for reductions in export flows in Januaries following wet years, which substantially increased OMR during many Januaries at the dry end of the historical range for that month (Figure 5.2). This is unrealistic for several reasons. First, the actual values don't conform to the model requirements of 0, -3500 or -5000 cfs, depending on previous year type; instead they are quite variable and achieve zero rarely. Thus, there is no clear regulatory basis for these flows.

Second, the reduction in export flows was sometimes accomplished through increased outflow rather than reduced reservoir releases or increased exports from the North Delta (Figure 5.2). Thus, many January outflows during dry periods were much greater than the corresponding flows of the NAA alternative.



**Figure 5.2. January flow conditions compared between the two modeled scenarios (LOS, top; HOS, bottom) as the differences from the flows under NAA. The colors show the range of NAA inflow. Under the LOS there were many Januaries when inflow was low but the outflow and OMR flow were increased by about the same amount over NAA.**

### Consequences

The anomalies discussed above seem to arise through the application of rules and constraints designed in some cases for real-time operations, using a model with a monthly time step. We understand and appreciate the difficulty in modeling such a complex system and the problems that would arise in attempting to mimic variation on a daily time scale. Furthermore, we trust that the modeling team has made every effort to produce output

that conforms to the constraints and the modeled hydrology. Nevertheless, the specific model outputs we focus on above seem unrealistic, particularly since these anomalies are largely confined to October and January. We do not think the system is likely to be operated in real time to achieve the flows shown in model output.

Thus, discussions in this and the next chapter should be accompanied with this caveat: *these apply only if the system were actually to be operated to achieve the flows indicated by the models.* If rules are not in place to ensure these flows are achieved, the benefits to delta smelt (and presumably other species) will not be realized.

## Analysis of flows

Construction of a new export facility will not by itself achieve the goals of restoring more natural flow patterns in the Delta; the effects of such a facility are entirely dependent upon its operational rules. We assessed how much the modeled operational scenarios (HOS and LOS) achieve the goals of restoring net natural flow directions within the Delta. In recent years, the Biological Opinions for delta smelt and salmonids have directed attention to net flows in OMR, which are the main channels carrying Sacramento water to the export facilities in the south Delta. OMR flows show relationships with salvage of some fish species at the fish facilities and are presumed to reflect entrainment risk to fish in the Delta, i.e. the direct effects of the projects. In earlier years, focus was on net flows in the lower San Joaquin River (QWEST) as a more general measure of the impacts of water management on net flows in the Delta, which were believed to cause indirect effects on fish populations.

OMR and QWEST flows are two measures for the effectiveness of CM#1 in restoring more seaward flows in the Delta (see Chapter 6 for an estimate of effects of the modeled flows on delta smelt entrainment). Here we examine both the changes in seaward flows and the degree of negative flows as predicted from CALSIM models.

A north Delta diversion will increase the frequency of positive net OMR and QWEST flows and reduce negative values to the extent that exports from the north Delta reduce exports from the south Delta. However, BDCP calls for continued use of south Delta diversion facilities and greatly restricts the operation of the north Delta diversion, particularly in dry periods and early winter. Thus, restoration of seaward flows in the Delta must be viewed in the context of the timing and conditions when the north Delta diversion can be used.

We describe how LOS and HOS alter the incidence and degree of reverse flows during the seasons of sensitivity for the covered fish. For each season of sensitivity, we group results by quartiles of outflow to assess how changes in flows occur under drier vs. wetter conditions. Low flows in the winter and spring are when concern over reverse flows is greatest for most species.

## Direct effects

Direct effects are entrainment, or the number of fish diverted into the facilities. This number is not known for any species because substantial numbers of fish are lost in the waterways leading to the fish facilities and through the louvers at the fish facilities. Salvage

is therefore a poor measure of entrainment effects, but there are no other direct measures. Estimates of entrainment as a proportion of total population of delta smelt are presented in Chapter 6. Such an analysis has not been developed for any other species of concern. Therefore, to broaden the analysis to all species we examined changes in modeled flow in OMR. This measure has been used in both Biological Opinions. OMR flow is both calculated by models and measured in the field; it is roughly equal to San Joaquin River inflow minus total exports. Because San Joaquin inflows are less than total exports under all but flood conditions, OMR flows are usually negative. We assume OMR is the primary focus of CM #1's goal to "reduce the incidence of reverse flow". To broaden the question we also assess the degree to which flows are made less negative by the alternatives.

### Incidence of reverse flow

Because 'incidence' is a measure of frequency, the "Incidence of reverse flows" is the frequency with which OMR is changed from negative under NAA to zero or positive (northward) under the proposed alternatives; because model output is available by month, we examined frequency on a monthly basis (Table 1). The distribution across months of the change in net OMR direction implies that effects on each species will depend on its season of sensitivity.

The results below are consistent with the goal of CM#1 of achieving a greater frequency of positive net flows in Delta channels by shifting exports to the north Delta diversion site. This is true more for HOS than LOS operations.

**LOS effects.** The LOS reduced the incidence of negative flows by 5% overall (50 months out of the 984 months modeled; Table 1). Under NAA 110 months had positive (northward) OMR flows while 160 months had positive flows under LOS. Positive or zero OMR flows under LOS coincided with negative flows under NAA in all months save August, but most frequently in January – March. There were 21 months when OMR flows were positive under NAA but negative under LOS in April and May (Table 1).

The shift to positive OMR flows under LOS was sometimes quite large (about 6000 cfs) and occurred almost solely under higher river inflows during December through June. The occasions when NAA alone produced positive OMR flow occurred only in April and May and the change in OMR flows between NAA and LOS were small (<1000 cfs).

**HOS effects.** The HOS had a more substantial effect on the incidence of negative flows than LOS (Table 1). There were only 13 instances when positive OMR flows under NAA were negative under the HOS, and the differences were very small in those cases. As with LOS, the changed OMR status happened in all months save August. The most noticeable difference between HOS and the other two alternatives was in September and November when HOS was northward about a third of the time while NAA was always southward and LOS northward only a few times. The low frequency of northward flows under HOS in October may be related to the anomalies in outflow identified above, but the reasons for the otherwise high frequency of positive OMR flows in fall under HOS are obscure, as they are not called for by regulations and no fishes of concern are vulnerable to export entrainment at that time.

**Table 1. Frequency by month of northward (including a few zero flows) or southward flows under NAA vs. LOS, and NAA vs. HOS. Columns in italics indicate those years and months when the direction of flow differed between NAA and the selected scenario. For example, in April there were 47 years when NAA flow was northward, in 5 of which LOS was southward, and 35 years when both flows were southward, out of a total of 82 years.**

Month	NAA North		NAA South		All LOS North	NAA North		NAA South		All HOS North
	LOS North	LOS South	LOS North	LOS South		HOS North	HOS South	HOS North	HOS South	
Oct	0	0	1	81	<b>1</b>	0	0	8	74	<b>8</b>
Nov	0	0	2	80	<b>2</b>	0	0	25	57	<b>25</b>
Dec	3	0	1	78	<b>4</b>	3	0	0	79	<b>3</b>
Jan	4	0	11	67	<b>15</b>	4	0	12	66	<b>16</b>
Feb	8	0	18	56	<b>26</b>	8	0	19	55	<b>27</b>
Mar	6	0	25	51	<b>31</b>	6	0	36	40	<b>42</b>
Apr	42	5	0	35	<b>42</b>	44	3	5	30	<b>49</b>
May	25	16	0	41	<b>25</b>	31	10	6	35	<b>37</b>
Jun	1	0	9	72	<b>10</b>	1	0	9	72	<b>10</b>
Jul	0	0	1	81	<b>1</b>	0	0	1	81	<b>1</b>
Aug	0	0	0	82	<b>0</b>	0	0	0	82	<b>0</b>
Sep	0	0	3	79	<b>3</b>	0	0	38	44	<b>38</b>
All months	89	21	71	803	<b>160</b>	97	13	159	715	<b>256</b>

### Magnitude of negative OMR flows

Entrainment rates are a function of population distribution and abundance, season of occurrence in the Delta, and flow conditions including export rates (or OMR conditions). The months of vulnerability for each species of concern were taken from the BDCP documents. For adult longfin and delta smelt the season of vulnerability is from December through March. For juvenile delta smelt the season is from March through June.

The effects of overall flow conditions, i.e. how relatively wet or dry it is, were assessed by grouping the months of vulnerability for all 82 modeled years into quartiles of outflow in the NAA; e.g., for adult delta smelt which are considered vulnerable during December-March, there were 82 months in each quartile of outflow. We examined conditions of OMR, river inflow and outflow under several operational scenarios. We examined differences under four levels of wetness for each month using outflow in the month as a measure of wetness. Historically fish are more often salvaged under drier conditions than under.

In Figure 5.3 we present comparisons of the HOS and LOS scenarios for each quartile of outflow (under the NAA scenario to ensure comparison of the same years in each graph).

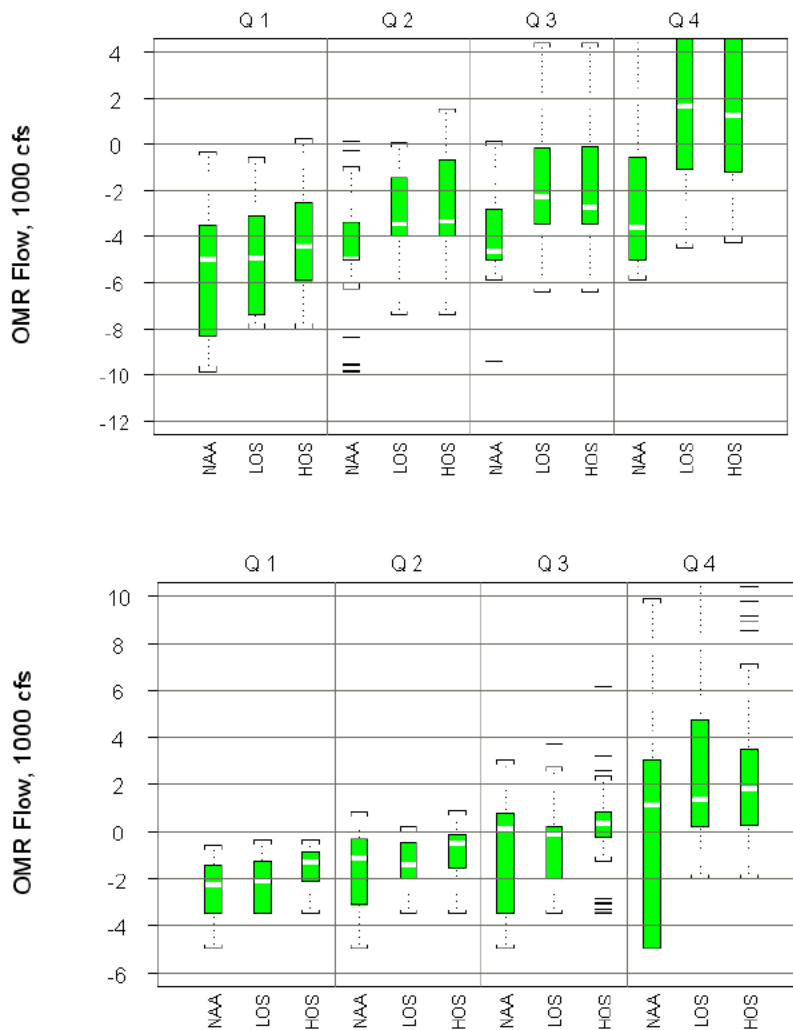
Under the HOS and LOS alternatives, OMR differs from NAA during the seasons of sensitivity for adult delta smelt (Dec-Mar) and juvenile delta smelt (April-June).

Three patterns can be seen:

1. In the season of vulnerability for adult smelt (December – March), HOS and LOS both show about a 1000-5000 cfs increase toward positive in OMR under all quartiles of outflow, but all OMR values are strongly negative except in the wettest quartile of the data. Exports in December and January can be high and the use of a north Delta diversion can improve OMR (but see “Concerns over modeling” above). For juvenile smelt, the increase in OMR flow under LOS and HOS is smaller and less consistent. In all cases the level of OMR flow is much less negative than in December – March.
2. The HOS and LOS alternatives differ only slightly except during the drier periods when OMR flow is slightly less negative under HOS than under LOS.
3. Under wetter conditions all alternatives produce median OMR flows in the range targeted as protective in the Biological Opinions (more positive than -5000, but see Modeled Impacts on Delta Smelt in Chapter 6). The use of NDD under high-flow conditions allows the HOS and LOS to avoid the extreme negative OMR values that occur under NAA because of the high south Delta export rates that are possible then.

Thus, in summary, model results suggest that reverse flows in the south Delta become more positive under both LOS and HOS for all quartiles of outflow. These changes can be seen both in the frequency and in the distribution of flows in the two seasons of vulnerability and the four quartiles of NAA outflow. In wetter months the north Delta diversion does not fully replace south Delta exports until river inflows are relatively high, so that OMR remains negative in most months of smelt vulnerability. Changes in OMR during the period of vulnerability of young delta smelt are smaller than those during December – March because all alternatives are constrained by the Biological Opinions to a much higher baseline OMR flow.





**Figure 5.3. Values of OMR under the three alternatives for BDCP shown for quartiles of outflow under the No-Action Alternative. Boxes show first and third quartiles with the median as a white bar. The whiskers encompass points within 1.5 times the interquartile range, and the short lines are outliers. Top, period when adult longfin and delta smelt are vulnerable (Dec-March). Bottom, period when juvenile delta smelt are vulnerable (March-June).**

### Indirect effects

Net or tidally-averaged flow on the lower San Joaquin River at Jersey Point is parameterized as QWEST. This flow can be negative (i.e., eastward), which is considered an indicator of flow conditions unfavorable to fish. Negative QWEST could alter the speed or path of fish migrating through the Delta, thereby prolonging their migrations or making them susceptible to adverse conditions in the Delta. No field estimates of indirect effects have been made and they are conceptually difficult because the biological effects are difficult to define and because the net flows in the lower San Joaquin River are small compared to tidal flows. Nevertheless, regulatory agencies, particularly the CDFW and the

NMFS, have long expressed concern that negative values of QWEST due to project operations present fish with impediments to their effective migration.

The “east-west flow pattern in the San Joaquin River” referred to in the justification for CM#1 is apparently QWEST. QWEST is calculated in the Dayflow water balance program (<http://www.water.ca.gov/dayflow/>) as:

$Q_{SJ} + Q_{CSMR} + Q_{MOKE} + Q_{MISC} + Q_{XGEO} - Q_{EXPORTS} - Q_{MISDV} - 0.65 (Q_{GCD} - Q_{PREC})$ ,  
i.e., the sum of inflows from San Joaquin River, eastside streams, and the Sacramento River via the Cross-Delta Channel and Georgiana Slough, minus south Delta exports, miscellaneous diversions in the Delta, and a fraction of the difference between precipitation and consumptive use within the Delta. However, for CALSIM modeling Delta consumptive use ( $Q_{GCD}$ ), Delta precipitation ( $Q_{PREC}$ ), and Delta miscellaneous diversions ( $Q_{MISDV}$ ) are unavailable so the above equation simplifies to:

$QWEST = Q_{SJ} + Q_{MOKE} + Q_{CSMR} + Q_{XGEO} - Q_{EXPORTS}$ .

$Q_{XGEO}$  increases with Sacramento River flow and also depends on DCC gate operations. Specifically,  $Q_{XGEO}$  changes as 13.3% of Sacramento River flow with both DCC gates closed and 29.3% with both gates open (Dayflow documentation cited above). Sacramento River flow into the Delta will decrease by the amount diverted in the north Delta. Thus, among the flows controlled under BDCP, QWEST decreases by 100% of south Delta export flows and 13.3% or 29.3% of north Delta diversion flows depending on DCC gate positions.

There are many covered species of fish that migrate through or reside in the central Delta (Table 5.2). At least one of these species is present in the Delta during every month but August. Conditions in the central Delta are important for migratory species that spawn in the San Joaquin or Mokelumne Rivers because the entire population must pass through the central Delta. By contrast, only a fraction (unknown) of Sacramento fish enter the central Delta during migration. To cover the species that would be most affected by changes in flows in the San Joaquin River, we limit discussion to outmigrating salmonid juveniles (February – April) and upmigrating San Joaquin salmon (September – November).

### Juvenile salmon

The occasional high springtime flow requirements of HOS (to benefit longfin smelt) coincide with the smolt emigration season (February – April). In drier conditions (the drier two quartiles) there is very little difference between NAA and LOS (Figure 5.4). The occasional occurrence of high flow requirements in HOS produce some differences between LOS and HOS scenarios, but mostly in the second quartile when the high flows are more likely to be triggered than in the driest quartile. All project scenarios diverge from the NAA under the wetter scenarios as more water is diverted from the north Delta and substitutes for high south Delta exports (Figure 5.4). The several thousand cfs differences in wetter months are occurring against baseline flows in the realm of 20000 cfs and greater, whereas the changes in flows in drier conditions are very small because limited North Delta diversion operations at low flows do not affect broad indices of Delta flow such as QWEST.

Table 5.2. Species of fish covered by BDCP that occur within the Central Delta for specific life history stages and the season of sensitivity to changes in flow conditions due to project operations (from various sources).

Species and Life History Stage within the Delta	Timing
<b>Sacramento and San Joaquin steelhead juveniles</b>	February - April
<b>Winter-run Chinook salmon juveniles</b>	November - April
<b>Spring-run Chinook salmon juveniles</b>	March-May
<b>Green sturgeon</b>	November-December
<b>Delta smelt adults</b>	December-March
<b>Delta smelt juveniles</b>	April-June
<b>Longfin smelt adults</b>	December-February
<b>Longfin juveniles</b>	February-March
<b>Upmigrating San Joaquin steelhead</b>	September-April
<b>Upmigrating spring-run Chinook salmon</b>	March-August
<b>Upmigrating winter-run Chinook salmon</b>	January-May
<b>Upmigrating fall-run salmon Chinook salmon</b>	September-November

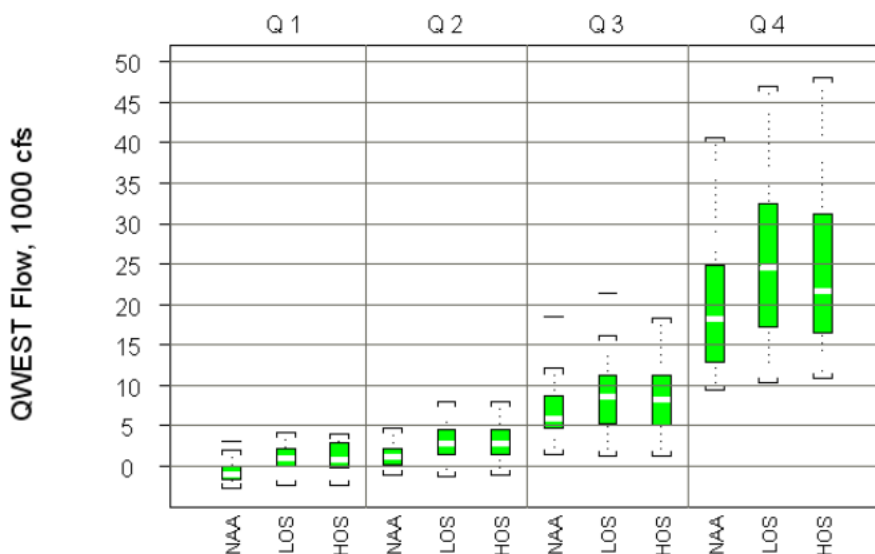


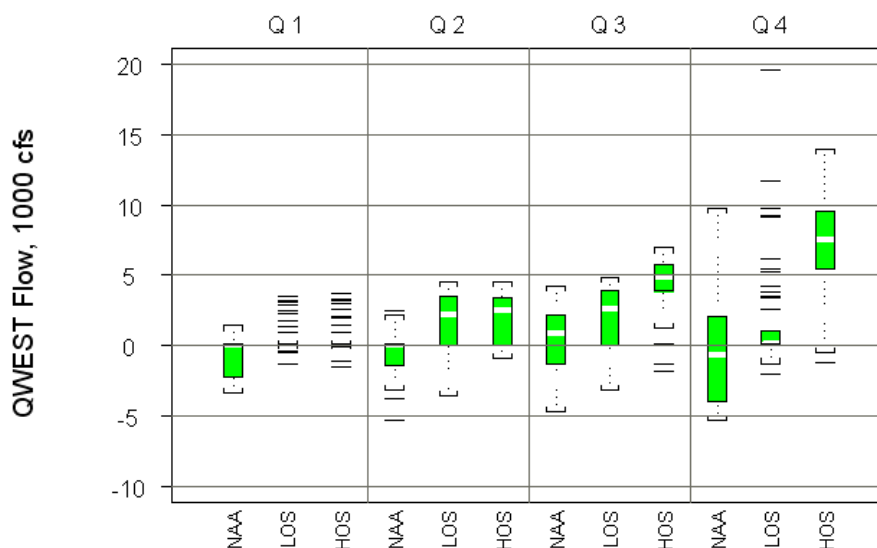
Figure 5.4. Feb-April QWEST flow for NAA and 3 alternative operational scenarios, grouped by quartiles of outflow. Two outliers for each scenario in Quartile 4, with values of 52,000 – 98,000 cfs, were cut off to allow better resolution of the lower values.

#### Adult San Joaquin fall-run salmon

Upmigrating salmon adults to the San Joaquin River pass through the south Delta and the lower San Joaquin River during September – November. In the fall there is very little difference among the alternatives that is not dwarfed by occasional high inflows due to flood releases or early winter storms (Figure 5.5). However, all alternatives show a general increase in QWEST compared to values for NAA because the use of the North Delta

Diversion is much less restricted and can more often substitute for south Delta diversions that are often operating at maximum flow under NAA.

In summary, project scenarios have small effects on QWEST in any season; changes in QWEST are smaller than those in OMR because use of the North Delta diversion does not translate into direct increases in flow, as it can for OMR. This is true for both the spring and fall. The high flows in HOS produce increases in QWEST in months around median wetness.



**Figure 5.5. QWEST flows for the September-November season grouped by quartile of outflow. One outlier for each scenario in Quartile 4, with values of 22,000 – 30,000 cfs, was cut off to allow better resolution of the lower values.**

## Conclusion

The analysis presented here demonstrates broad improvement in in-Delta conditions under BDCP, as measured by changes in OMR and QWEST. However, we reiterate our concerns over the likelihood that Delta flows would actually be managed in the manner prescribed by the modeling. Changes in the frequency of reverse flows and their magnitude were somewhat obscured by the high variability among years, even those with similar hydrology. Some of this variability is a consequence of carry-over storage and the specifics of operational rules that may be triggered by conditions in one year but not another even if hydrology is similar. In the context of this variability, the improvements in flow conditions during periods of vulnerability of the smelt and salmon species were modest.

In analyzing model results of the operational scenarios we were surprised to see benefits occurring under dry conditions. The restrictions on North Delta diversions limit its operations to times of substantial river flows, so its ability to substitute for south Delta diversions should be limited to times of high flow. In fact, over a broad range of

intermediate flows, the north Delta diversion augmented south Delta exports, rather than substituting for them. Thus, improvements to in-Delta flow conditions happened mostly in the highest quartile of Delta outflow under NAA. The differences between flows under the LOS and HOS were generally rather small.

# Chapter 6: Estimated Effects of BDCP Flows on Smelt

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## Introduction

This chapter takes the model projections for three scenarios discussed in Chapter 5 (NAA, HOS, and LOS) and uses various simple statistical models to estimate the potential effects of these flows on delta and longfin smelt. The principal flows of interest are:

- Winter and spring flows in Old and Middle Rivers, which affect adult and larval to juvenile delta smelt, respectively
- Fall outflow, which may influence extent of habitat and therefore subsequent recruitment of delta smelt
- Spring outflow, which has a statistical relationship with subsequent abundance of young-of-the-year longfin smelt

We did not consider export effects on longfin smelt, for which there is no available statistical model and therefore no method to estimate losses without additional analysis beyond the scope of this review.

In making the calculations presented here we were constrained to use the CALSIM model output for the various flows by month and year. The concerns expressed in Chapter 5 apply here: *we do not believe that the system will actually be operated to obtain monthly patterns of flow like those in the CALSIM output*. This is particularly true in January and October, when wild swings in flows from one year to the next indicate a situation that would be very unlikely in the real system.

## Direct Losses of Delta Smelt

Flows in Old and Middle River are related to salvage of delta smelt and other fish at the south Delta fish facilities. Annual salvage in turn is generally assumed to be a small fraction of entrainment losses, particularly for young (small) fish, because of various other losses attributed to export pumping, including predation in the waterways leading to the facilities and inefficient capture of delta smelt by the facilities.

Here we present estimates of export entrainment losses as a fraction of the population of delta smelt during the adult stage and the larval to early juvenile stage, only a small fraction of which is salvaged (Kimmerer 2008). The calculations were based on results of Kimmerer (2008) as amended for adult delta smelt by Kimmerer (2011). The general procedure was to determine a relationship for each of these two life stages between survival and flow variables that were available from CALSIM. Flows used were Old and Middle River flow (OMR) for adults, and net inflow (i.e., inflow less north Delta diversion flow, NDD) and export flow in the south Delta for larvae and juveniles combined.

We modeled the entire period of CALSIM analysis (WY 1922-2003) for the BDCP scenarios, and the historical period (1955-2003) for comparison. We calculated losses as described in

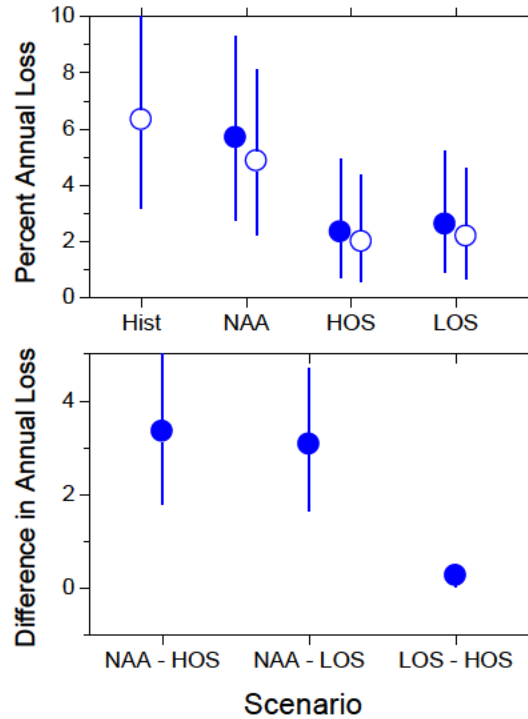
Appendix C for the BDCP scenarios for both time periods, and for the historical period using Dayflow variables and OMR flows from USGS monitoring.

The principal assumptions were:

- The relationships used to calculate survival or recruitment accurately reflected the corresponding population parameters; that is, the confidence intervals of the predictions were assumed to include the true values of the population parameters with 95% probability. Note that these analyses (Kimmerer 2008, 2011) have not been repeated by any analysts, although Miller (2011) provided a detailed critique. This is rather worrisome, because both the BiOP and several published modeling studies rely on the accuracy of those analyses (Maunder and Deriso 2011, Rose et al. 2013a, b).
- Changes due to BDCP actions were cumulative such that each factor could be examined in isolation from the others, and its effect considered separately from the others.
- The only changes considered were those due to the entrainment effects of flow. Long-term changes in sea level, tidal prism, temperature, salinity, and physical configuration of the Delta were neglected, despite their likely influence on the exposure of the smelt population to export entrainment. Exceptions to this were the influences of these factors on flows modeled by CALSIM.
- The flow time-series produced by CALSIM accurately reflected the influence of the various changes (but note concerns expressed above and in previous chapters).
- The broad spatial distributions of delta smelt will not differ substantially from those existing when the above analyses were made. This may not be true if the fraction of the population in the north Delta is higher now and in the future than when the analyses were made (Miller 2011, Kimmerer 2011).

Losses of adult delta smelt were calculated as a linear function of OMR flows. Annual percent loss under each of the three scenarios was similar for the historical and modeled time periods (Figure 6.1). The estimated proportion of adults lost to entrainment was slightly lower for the NAA than for the historical period, reflecting overall lower export flows presumably because some operating rules were not in force during the historical period. The High- and Low-Outflow scenarios (HOS and LOS) both had proportional losses that were ~ half of those under the NAA, or a net change in loss of about 3%/year.

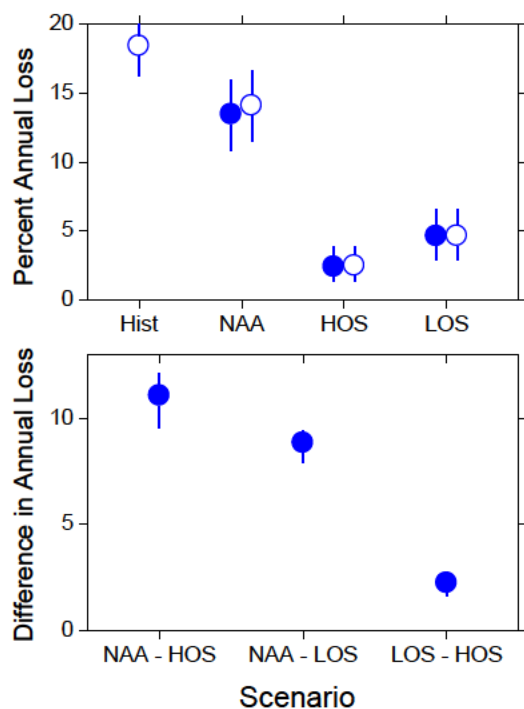
Losses of larval + juvenile smelt were modeled as a function of exports from the south Delta and inflow to the Delta less diversions from the North Delta facility. The patterns for young smelt were somewhat similar to those for adults but with larger differences among scenarios. The NAA had substantially lower losses than the historical condition over the historical period (Figure 6.2). Flows projected for both the HOS and LOS resulted in much lower losses than for the NAA, with losses under the HOS reduced to ~2%/year on average.



**Figure 6.1. Annual percentage of adult delta smelt lost to export pumping for three scenarios and the historical time series. Symbols give means (see text) and error bars give the 95% confidence limit calculated as quantiles of the 1000 simulated samples of the respective distributions. Top panel, percent annual loss for 1922-2003 (filled symbols) and for 1980-2003 (open symbols) including the historical data. Bottom panel, differences between pairs of model scenarios.**

We combined results for adults and larvae + juveniles within each calendar year by first calculating the proportion of the population that would remain after 20 years at the mean values in Figures 6.1 and 6.2, then multiplying the proportions remaining to get the influence of these scenarios over both life stages. This is effectively a long-term survival percentage. These are not predictions, and are useful only for examining differences among scenarios. The resulting percentages were 38% for the HOS, 23% for the LOS, and 2% for the NAA (Table 6.1). In other words, the two scenarios with a north Delta diversion resulted in 19- and 11-fold increases in survival over a 20-year period.





**Figure 6.2. As in Figure 6.1 for losses of juvenile delta smelt.**

These numbers are highly uncertain, since the value for NAA is so small and variable (Table 6.1). There are indications that losses have been overestimated, especially given the potentially large subpopulation of young delta smelt that may be resident in the Cache Slough complex, where they are immune from effects of export pumping in the south Delta (Miller 2011). Using the upper confidence limits of the projected population size at the end of 20 years (i.e., the lower 95% confidence limits of the loss estimates) the ratios of population remaining after 20 years would have been 14 for HOS and 9 for LOS. These confidence limits do not account for any upward bias in loss estimates, and the loss estimates can and should be refined to reflect current understanding.

Nevertheless, the results of this analysis show a substantial improvement in long-term survival of delta smelt under HOS and to a lesser extent LOS, *provided the water projects are operated in ways that result in flows similar to those in the simulation*. Taken at face value the mean difference in losses between NAA and either of the other scenarios would have roughly sufficed to reverse the decline in delta smelt during the early 2000s.

**Table 6.1. Percent of delta smelt population remaining for each of three BDCP scenarios after 20 years of losses at the rates estimated and shown in Figures 1 and 2. Values given with 95% confidence intervals.**

	<b>Adults</b>	<b>Juveniles</b>	<b>Combined</b>
NAA	31 ± 22	6 ± 4	2 ± 2
HOS	62 ± 25	62 ± 15	38 ± 19
LOS	59 ± 25	39 ± 15	23 ± 13

## Outflow Effects

Two time periods are considered for effects of changed outflow: fall for delta smelt and spring for longfin smelt. These effects are typically cast in terms of X2. For this analysis we calculated X2 from outflow as determined by CALSIM, using the monthly relationship in Jassby et al. (1995), as has been done for all previous analyses of relationships of X2 to abundance indices or habitat of fish (e.g., Feyrer et al. 2007, Kimmerer et al. 2009). CALSIM also produces X2 but it is for the previous month and is somewhat different from that used previously, particularly since it is said to account for sea-level rise and the effects of additional tidal prism due to marsh restoration. Since we were focused on the early long-term (ELT), we elected for now to neglect these considerations and use an X2 value that reflected the anticipated outflows in the same way as in the analyses of X2 effects on fish.

### Fall X2 Effects on Delta Smelt

The USFWS Biological Opinion (BiOP) for delta smelt proposes to use X2 in the September-December period as a management tool. The principal basis for this action is the analyses of fall habitat indices (Feyrer et al. 2007, 2011) and an unpublished analysis relating the Summer Towntnet index to the previous fall Midwater Trawl index and X2:

$$TNS_{y+1} \sim a + bMWT_y + cX2_y + \varepsilon_y \quad (6.1)$$

where TNS is the summer towntnet index, MWT the fall midwater trawl index, y is year,  $\varepsilon$  is error, a, b, and c are fitted parameters, and the time frame was restricted to after 1987 to account for the changes in the foodweb resulting from the introduction of the clam *Potamocorbula amurensis* (See Chapter 7 regarding food limitation of delta smelt).

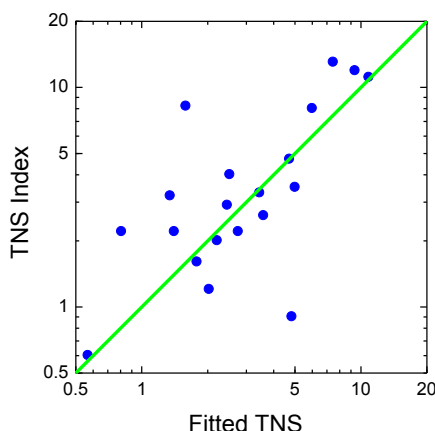
This model assumes that the main effect of fall X2 on delta smelt is through a combination of survival and growth and therefore population reproduction in the following spring, resulting in effects on abundance in the following summer. Equation 6.1 is somewhat illogical in modeling TNS as an additive function of MWT and X2, and it is also strongly influenced by the data point from 1998, the wettest fall among those included in the analysis. Removing that point weakens that relationship somewhat, although it remains strong. Nevertheless, we fitted an alternative model:

$$\log(TNS_{y+1}) \sim a + b \log(MWT_y) + cX2_y + \varepsilon_y \quad (6.2)$$

which is more in keeping with the form of the other X2 models (Jassby et al. 1995). This model was fitted to all the data since 1987 using a robust regression method to allow for

some over-dispersion in the residuals (function *rlm*, Venables and Ripley 2003). The regression coefficients were  $a=2.7$ ,  $b= 0.62 \pm 0.22$ , and  $c= 0.061 \pm 0.55$ ,  $R^2=0.68$ , and diagnostic plots revealed that this model was appropriate for the data (Figure 6.3). In particular 1998, and unusually wet year, did not have a strong influence on this relationship.

We extrapolated from this model to the BDCP scenarios using the CALSIM-modeled outflows. The target was the summer townet index, which we examined as a ratio to that predicted under NAA. In contrast to earlier analyses, we did not attempt to relate this to long-term population growth.



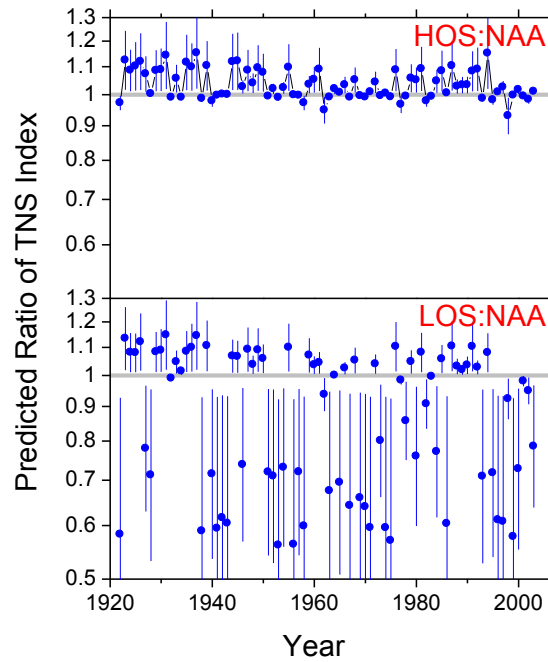
**Figure 6.3. Fitted and measured summer townet index (TNS) with a 1:1 line. Values were fitted using Equation 6.2.**

The modeled monthly outflow values were converted to X2 according to the monthly equation in Jassby et al. (1995), with the initial value (October 1921) set to the equilibrium X2 for the modeled flow. This was combined with historical monthly mean X2 values and all were averaged over September-December. Equation 6.2 was then used to predict the summer townet index from the mean fall midwater trawl index from 1988 to 2011 and X2 for the three scenarios.

Results showed HOS to have, on average, a slightly higher summer townet index than under NAA (Figure 6.4). The ratio of townet indices determined under HOS to that under NAA was 1.02, i.e., a 2% greater index under HOS, with 10<sup>th</sup> and 90<sup>th</sup> percentiles of 0.89 and 1.10 respectively. About a third of the values had lower confidence limits below zero, indicating low confidence that a real increase would be achieved under these conditions.

By contrast, the predicted ratio of townet index for LOS:NAA was about the same as that for HOS:NAA about half of the time, and the other half of the time it was much lower, with large confidence intervals related to the uncertainty in the prediction from the model. The calculated ratio had a median of 0.98 with 10<sup>th</sup> and 90<sup>th</sup> percentiles of 0.60 and 1.10. This peculiar pattern arose from the patterns of outflow in the CALSIM output (see Chapter 5). We have very low confidence that these patterns reflect how the system would really be

operated, and therefore suggest these results be considered as conditional on proposed operational rules.



**Figure 6.4. Ratios of predicted TNS index by year from HOS (top) and LOS (bottom) to those from NAA.**

### Spring Outflow/X2 Effects on Longfin Smelt

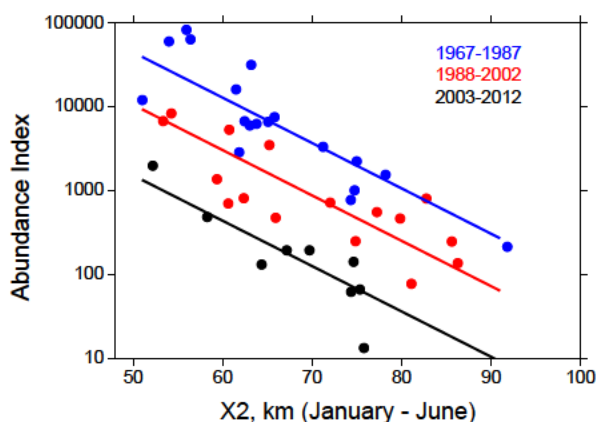
Longfin smelt has the strongest relationship of abundance index to X2 of any fish (Jassby et al. 1995). The index for a given level of X2 has declined, but the response to flow has not changed. We updated the latest published version of this relationship (Kimmerer et al. 2009) by adding two step changes in time: one in 1987-1988 corresponding to the spread of the clam *Potamocorbula amurensis*, and the other in 2003-2004, the POD decline (Thomson et al. 2010). The statistical model used was

$$\log_{10}(LFS_y) = a_y + bX2_y + \varepsilon_y \quad 6.3$$

Where LFS is the annual index of longfin smelt abundance from the fall midwater trawl survey,  $y$  is year, X2 is monthly values averaged over either January-June (as in Jassby et al. 1995) or March-May, and  $\varepsilon$  is error. Fitting parameters are  $a$ , which takes one of three values by year group, and  $b$ , the slope of the X2 relationship.

The resulting relationship (Figure 6.5) shows both the effect of X2 and the two step-changes in abundance index. Diagnostic statistics showed that the model was appropriate. Since we were interested in the difference between the two alternative flow scenarios and NAA, the only parameter that concerned us here was  $b$ , which had a value of  $-0.054 \pm 0.005 \text{ km}^{-1}$ , essentially identical to previously published values. Averaging X2 over March-May

gave a slope of  $-0.049 \pm 0.005 \text{ km}^{-1}$ , and the fit was slightly inferior to that of the January-June model.



**Figure 6.5. Abundance index of longfin smelt vs. X2 averaged over January-June, with step changes between 1987 and 1988 and between 2002 and 2003. Colors of points and lines indicate the time period.**

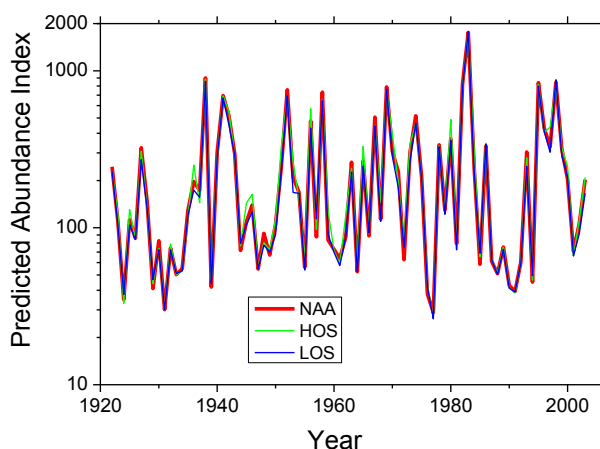
The months selected in the original analysis were based on the assumption that the (unknown) X2 mechanism operated during early life history of longfin smelt, which smelt experts linked to this period. Autocorrelation in the X2 values through months means that statistical analysis provides little guidance for improving the selection of months. A better understanding of the mechanism(s) underlying the relationship would probably allow this period to be narrowed and focused, but for now there is little basis for selecting a narrower period for averaging X2.

The predictions from the above model were then applied to the X2 values calculated from the CALSIM projections of outflow for the 82-year period. We did not attempt to propagate prediction error because it is small compared to variability in outflow. Applying the January-June value for the three selected scenarios resulted in scant differences in predicted abundance indices (Figure 6.6). The median  $\log_{10}$  ratio of indices for HOS:NAA was 1.00 (mean 1.05) with 10<sup>th</sup> and 90<sup>th</sup> percentiles of 0.91 and 1.27. Corresponding values for LOS:NAA were median 0.92 (mean 0.92) and percentiles of 0.83 and 1.00.

Thus, changes in outflow resulting from the CALSIM projections of spring outflow were small, particularly on the scale of the high variability with X2. HOS provided a minuscule increase in the mean but the median did not change from NAA, indicating that half of the years had higher, and half lower, values under HOS than under NAA. LOS gave values that were ~8% lower than those under NAA.

Although it would be desirable to link such calculations to a population-dynamics model, no such model is available; furthermore, previous analyses have shown that abundance of longfin smelt is highly predictable from X2 and, more recently, groups of years as done above. This does not mean that stock-recruit relationships are unimportant; an alternative analysis models a recruitment index, the log of the ratio of MWT to the MWT value 2 years

earlier, as a function of X2 (Nobriga and Rosenfield, in prep.). However, it is unlikely this analysis would indicate a stronger effect of X2 on longfin smelt under BDCP.



**Figure 6.6. Predicted abundance from the model in Figure 6.3 for the three BDCP scenarios. The intercept for the third time period (2003-2012) was used to calculate these indices.**

## Conclusions

The modeled flow changes under BDCP have mixed effects on the two smelt species. For delta smelt, changes in flow in the south Delta had a marked effect on survival of both adult and young smelt, such that gains of several percent a year would be forecasted for the difference between the NAA and the two with-project alternatives. Effects of outflow on delta smelt were small for HOS compared with NAA, while projections under LOS showed about half the time a marked reduction in predicted summer abundance index compared to NAA. Effects of spring outflow on longfin smelt were not very large.

The results for delta smelt were somewhat surprising, since food supply is clearly an important limitation (Chapter 7) and more likely implicated in the decline than export losses. We nevertheless stand by these results subject to the following contingencies:

- The water projects will be operated to achieve similar flow patterns as in the CALSIM output we used in our analysis.
- Future re-analyses of the influence of export pumping on delta smelt are used to refine these estimates.
- Effects of increasing temperature, introductions of quagga or zebra mussels or other high-impact species, changing flow-X2 relationship, rising sea level, and catastrophic inundation of Delta islands do not materially alter the trajectory of delta smelt.

The last point is presented almost facetiously – things will change, in some ways we can predict and other ways we cannot. The BDCP takes account of some of these changes but others are just as likely over the time frame of the project and should be accounted for

(Chapter 8). Nevertheless, at present we lack the capability to include these factors in a more thorough analysis, but believe it should be done.

Longfin smelt, by contrast, are unlikely to be much affected by BDCP. The anticipated changes in outflow are rather minor, and the flows needed for substantial changes in longfin smelt abundance are likely too great to be practically achieved.

# Chapter 7: Likely Response of Listed Fishes to Physical Habitat Restoration

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## Introduction

This Chapter focuses on the proposed restoration of physical habitat in the Delta and Suisun Marsh. Because of time constraints we have focused on the potential benefits of floodplain and marsh restoration to delta and longfin smelt. These benefits are postulated to occur through expanded physical habitat for the fish, or through export of food from the restored areas to smelt habitat.

## Summary of Assessment

The BDCP proposes to restore 55,000 acres of subtidal to intertidal habitat<sup>1</sup> of which 20,600 acres is to be allocated among various Restoration Opportunity Areas (ROAs) in the Delta and Suisun Marsh and the remainder to be allocated later. If completed this restoration will substantially increase the inundated portion of the Plan Area; for example if all 7000 acres assigned to Suisun Marsh were restored it would roughly triple the area exposed to tidal action.

The ROA's include Suisun Marsh, Cache Slough, and the eastern, southern, and western Delta. The documentation is unclear on the depth profiles of these areas and for calculations below we have assumed that about half of each will be intertidal and the remainder subtidal with a mean depth of 2 meters. The document lists the aquatic and terrestrial species expected to benefit from these actions, but here we focus only on their likely effects on the two smelt species.

Our results to date lead to the following preliminary conclusions:

- Delta and longfin smelt are usually food-limited, meaning that population levels would rise if there were more zooplankton in their rearing areas. This limitation is probably stronger in spring-fall than in winter.
- The BDCP is overly optimistic about the likely benefits of tidal marsh restoration to the smelt species, particularly the extent of food production.
- A review of the literature suggests that tidal marshes may either import or export phytoplankton and zooplankton.
- Under highly favorable assumptions about production and export of plankton, restored tidal marshes could make at most a modest contribution to extant plankton production.

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<sup>1</sup> "Habitat" means the location and conditions in which a population of a species lives; here we follow the BDCP document in using the term to mean a physical space. We likewise use "restore" to mean to prepare that space for the potential occupation of one or more species, irrespective of the previous condition of the space.



- The subpopulation of delta smelt that inhabit the Cache Slough complex through summer may benefit from additional physical space in that area. The same could be true in Suisun Marsh although current use by smelts is low.
- The high level of uncertainty about outcomes points to the use of moderate- to large-scale experimental restoration projects to determine whether the proposed restoration will achieve the food-production goals and, if so, how to design them optimally.

## Marsh Restoration

### Review of conceptual basis

The BDCP anticipates many benefits to delta and longfin smelt. Although the documentation is unclear on the expected magnitudes of these benefits, it is uniformly optimistic that they will contribute substantially to recovery of the species. Here we focus on two potential benefits to the smelts from the restoration of tidal habitats. First, the restored habitats are expected to provide a food supply that will enhance the food supply available to the smelts. Second, the restored habitats are expected to provide additional physical space, resulting in an increase in smelt abundance. Neither of these proposed benefits is well developed in the documentation, and the literature cited seems to have been selected to support the claims made. The BDCP documentation furthermore contains factual errors and misinterpretations that cast doubt upon the projections that are made, however qualitative. We therefore conducted a reasonably thorough analysis of these specific claims, within the constraints of time available.

The first outcome requires two conditions: 1) that the smelt populations are currently food-limited, meaning that an increase in concentration of food organisms would result in a higher abundance of smelt; and 2) that the restored marshes will produce and export enough food organisms to make a difference to the population status of the smelts.

BDCP Appendix 5E uses “prod-acres” to index the expected productivity of phytoplankton in the restored areas. However, this index is conceptually flawed in two ways. First, it uses an estimate of growth rate rather than production of phytoplankton, which is the product of growth rate and biomass. Second, it assumes implicitly that all phytoplankton growth is available as food for the zooplankton consumed by the smelt species, but analyses published on the San Francisco Estuary and elsewhere show that most of the production is consumed by benthos and by microzooplankton such as ciliates (e.g., Lopez et al. 2006, Lucas and Thompson 2012, Kimmerer and Thompson submitted).

The smelt species are expected to occupy some of the restored habitats. This may provide benefits in the form of increased opportunities for individual fish to find suitable conditions such as spawning substrate, food patches, or shelter from predators. A potential benefit is to diversify the locations in which the smelt species occur, in an attempt to increase resilience of the populations to local perturbations such as high-temperature periods or toxic spills.

## Analysis of components

For effects of food production and export we assessed the evidence for food limitation of the smelt populations, and for the amount of food (zooplankton) that restored marshes would export to waters where the smelt species occur. For physical habitat we examined current patterns of occurrence to determine the likely effect of additional physical habitat on the smelt species.

We do not address other potential indirect impacts of marsh restoration, or interactions with other proposed projects. Restoration of extensive areas of marsh will increase the tidal prism in the restored area. This will affect tidal currents and elevations both locally and all the way to Carquinez Strait, and therefore affect salinity penetration and the movement of sediments. The effects on salinity have been included in the modeling presented in BDCP documents, but we did not review this. The U.S. Army Corps of Engineers has proposed a project, now on hold, to deepen the Sacramento Deep-Water Ship Channel, which is currently an important part of the habitat of delta smelt. This and other non-BDCP projects should be taken into account when considering impacts of BDCP.

## Are smelt species food-limited?

What is the evidence for and against food limitation in delta and longfin smelt? By food limitation we mean a situation in which an increase in concentration of food organisms would result in a higher abundance of smelt. This does not require that all or even most fish have depressed growth or reproductive rates, only that at least some of them do. Substantial food limitation would require the following to be true:

1. The density of food organisms is too low to support the maximum growth rate of the fish.
2. Therefore some fish are in poorer condition or grow more slowly than under food satiation.
3. Either or both of the following:
  - a. Survival over a life stage depends on condition and therefore food supply
  - b. Reproductive rate of an adult varies with growth rate during development through its effect on maturity or total eggs per female.
4. Higher reproduction leads to a larger population, all else being equal. We assume this condition must be true as a straightforward consequence of population dynamics.

Food limitation could occur at one or more life stages, which may occupy different parts of the estuary. During spawning and early life delta smelt are mostly in freshwater. During the late larval stage (~July) until the pre-spawning migration in December, part of the population is in the low-salinity zone (LSZ, salinity ~0.5-5), and part is in the Cache Slough-Liberty Island complex in the North Delta (Sommer et al. 2011). Longfin smelt also spawn in freshwater but move earlier and further seaward (Rosenfield and Baxter 2007, Kimmerer et al. 2009). We refer to fish between metamorphosis from the larval stage to their spawning migration as juveniles (i.e., including all fish caught in the fall midwater

trawl survey). Both smelt species consume available plankton in their habitat, with the size of prey related to that of the fish.

Food limitation is surprisingly difficult to demonstrate in a fish population. Nearly all populations must be food limited to some degree. However, food limitation of individual fish can be difficult to detect. The prey and the fish are spatially patchy and temporally variable, so the degree of food limitation is sporadic and patchy. Great differences among individuals in feeding success result in differences in growth and survival, such that the survivors are those that have been well fed. Feeding success also interacts with other influences such as predation risk and physiological stress.

The analysis of food limitation relies on a variety of direct and indirect evidence (Details in Appendix D). Some studies suggest food limitation inferred from correlations of abundance or length with measures of food availability, indices of gut fullness and physiological condition of field-caught smelt, and laboratory-derived estimates of feeding rate in relation to food concentration. A few other studies do not support food limitation in these species. However, the weight of evidence suggests that food is limiting the populations of both smelt species.

### Export of food from shallow restored areas

One purported benefit to smelts of restored shallow areas is that elevated food production in these areas will be exported as a subsidy to open waters where the smelts are abundant. The implicit conceptual model is that these shallow areas will produce an excess of phytoplankton and zooplankton that will then be exported by stream flow or tidal currents. A subsidy of phytoplankton could stimulate zooplankton production in the open waters, since the zooplankton in this estuary are chronically food-limited in their growth or reproduction (Müller-Solger et al. 2002, Kimmerer et al. 2005). However, grazing by clams is likely to prevent such a subsidy from having much effect on zooplankton production. The alternative subsidy is that of zooplankton grown within the restored areas, including larger forms such as mysids that are consumed by juvenile longfin smelt and adult delta smelt.

The magnitude of any subsidy depends also on the transport process. Where the transport is mediated by tidally-driven currents, the subsidy will be related to the tidal exchange and the difference in biomass between the restored area and the open water. Where it is mediated by river flow, the subsidy will depend on the net flow and the biomass in the restored area.

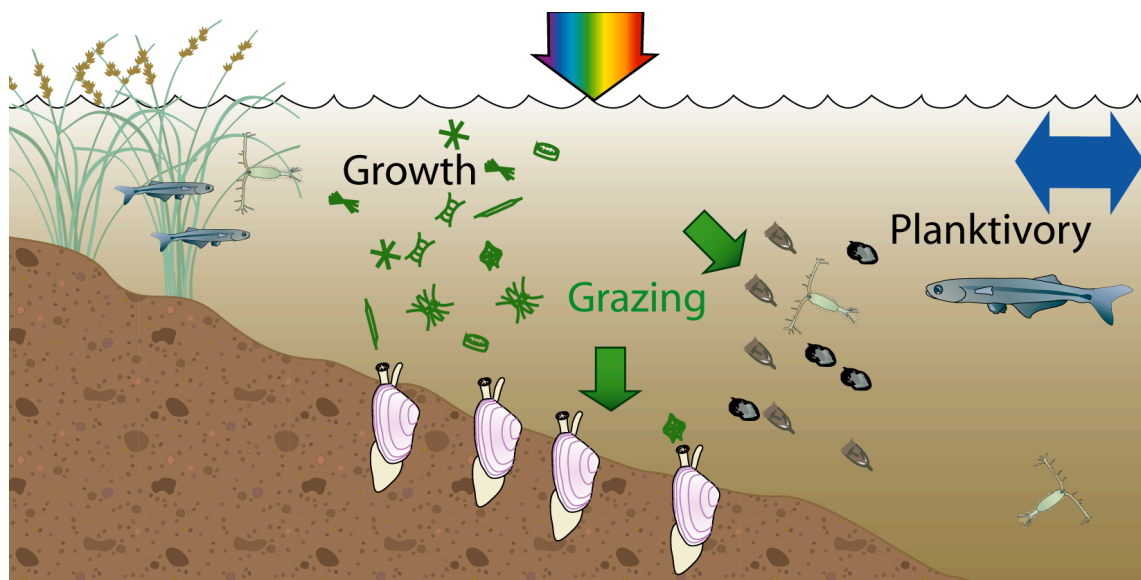
Here we examine the literature on subsidies from marshes, use a simple model to estimate the magnitude of such a subsidy of either phytoplankton or zooplankton, and estimate the proportional flux from the Suisun Marsh to Suisun Bay using output from a particle-tracking model as a measure of the extant subsidy. Our conclusions are:

- The literature does not support a confident assertion that marshes will subsidize zooplankton of the open waters.
- Calculated subsidies of phytoplankton and zooplankton are modest under optimistic assumptions about in-marsh production and design of restoration sites.

- A subsidy of zooplankton from Suisun Marsh to Grizzly Bay cannot be very large under current conditions, and is unlikely to be much larger with the proposed extent of restoration.

*Do shallow areas export phytoplankton or zooplankton?*

Marshes can be major producers of organic matter because of their extensive vegetated surface exposed to sunlight, shallow waters leading to light penetration through all or most of the water column, and the continual supply of nutrients from the open waters and from land (Figure 7.1). This appears to be true even for recently restored marshes (Howe and Simenstad 2011). Over the long term, mass must balance, so production in excess of respiration by organisms within the marsh must be either buried or exported as organic matter or organisms to adjacent estuarine waters.



**Figure 7.1.** Conceptual model of the production of food for pelagic fish in a low-order tidal marsh channel. Because the water is shallow (and may be clearer than in adjacent channels) light penetration is good and growth of phytoplankton and benthic microalgae is high. Losses of phytoplankton occur through benthic grazing and by pelagic grazing, chiefly by microzooplankton but also by larger zooplankton such as copepods that can be consumed by fish. Benthic grazers filter a certain volume of water every day, so the shallower the water the more intensive the grazing on the plankton of the marsh. Small planktivorous fish such as Mississippi silversides seek shelter in the shallowest and vegetated areas; thus consumption of zooplankton is also more focused and more selective for larger organisms in shallow water. Tidal exchange of water with the adjacent higher-order (larger) channel transports nutrients, organic matter, and plankton between marsh and channel, but the direction of transport for zooplankton may be in or out of the marsh depending on the outcomes of the various production and consumption processes.

Export of organic matter from marshes to adjacent estuarine waters was first considered as the "outwelling hypothesis" (Odum 1980, Nixon 1980). This hypothesis holds that the export of labile organic matter provides an important subsidy to nourish adjacent waters of the estuary or continental shelf.

The outwelling hypothesis originated in studies of extensive, rich marshes on the east and Gulf coasts, but even there, quantitative demonstrations of its importance to estuarine or coastal foodwebs were few (Dame et al. 1986). Much of the difficulty arises from the technical challenge of measuring a small net flux in a large tidal signal with high variability (Dame et al. 1986). In addition, dissolved and particulate organic matter produced by rooted vegetation can be highly refractory and therefore largely unavailable to estuarine pelagic foodwebs, which are usually fueled mainly by phytoplankton (Sobczak et al. 2002, 2005).

Marshes can be sites of high productivity by benthic or planktonic microalgae because they are shallow, so waters are well-lit. Therefore a marsh could export organic matter as living phytoplankton. However, the extent of this export depends on consumption within the marsh, including consumption of phytoplankton by benthic grazers in shallow waters, as illustrated for flooded islands in the Delta by Lopez et al. (2006). Often overlooked in attempts at a mass-balance of phytoplankton is the high rate of consumption by microzooplankton, which typically consume about 60% of the production by phytoplankton in estuaries (Calbet and Landry 2004, York et al. 2011). Thus, the production actually available for consumption by mesozooplankton, and for export, is considerably lower than would be expected from estimates of primary production.

For zooplankton the magnitude and direction of the flux depends on behavior and on size- and taxon-specific patterns of mortality. In particular, visual predation by fish can exert strong control on the size distributions, and therefore species distributions, of zooplankton (Brooks and Dodson 1965). Vertical movements of zooplankton and hatching or settlement of larvae can lead to spatial patterns of abundance that do not reflect tidal transport (Houser and Allen 1996). Consumption of zooplankton by small fish that seek food and shelter in shallow areas can reduce zooplankton abundance near shore, and shift the size distribution toward smaller forms, in lakes (Brucet et al. 2005, 2010), lagoons (Badosa et al. 2007), and marshes (Cooper et al. 2012). The outcome can be net fluxes into shallow areas (Carlson 1978, Kimmerer and McKinnon 1989), and marshes can be simultaneously sinks for copepods and areas of aggregation for bottom-oriented larvae (Mazumder et al. 2009).

Thus, marshes may act either as net sources or sinks for plankton in the adjacent waters, depending on the availability of habitat for small fish and the degree of colonization by benthic grazers such as clams. The exact details of the exchange processes depend on the physical configuration of the marsh including permanence of inundation (Brucet et al. 2005), residence time of the water (Lucas and Thompson 2012), and the biological composition, i.e., the kinds and abundance of producers and consumers within the marsh including transient organisms (Kneib 1997). If the excess organic matter is being

transported by fish as in some east coast marshes (Kneib 1997), little benefit would accrue to planktivorous fish in the open waters such as the smelts.

Few of these aspects have been examined in marshes of the San Francisco Estuary. Long-term studies of Suisun Marsh have revealed a lot about fish assemblages (e.g., Matern et al. 2002, Feyrer et al. 2003) and medusae and some zooplankton (Wintzer et al. 2011, Meek et al. 2013), and some detailed studies of exchange processes have been undertaken (Culbertson et al. 2004). Zooplankton abundance is highest in small sloughs of long residence time (P. Moyle, UC Davis, personal communication).

Foodwebs in diverse marshes of the San Francisco Estuary are supported more by local plant production than by estuarine phytoplankton (Howe and Simenstad 2007, 2011). This implies a division of organic-matter sources between those supporting littoral and marsh foodwebs and those supporting pelagic foodwebs (Grimaldo et al. 2009).

Lehman et al. (2010) estimated the fluxes of various substances in and out of Liberty Island, a flooded island in the Cache Slough complex in the northern Delta. They found large seasonal shifts in the magnitude and direction of fluxes. In particular, seasonal chlorophyll flux was into Liberty Island in spring and out in fall, based on point measurements, and into the island in all seasons but more so in spring and summer, based on the continuous measurements. Fluxes of copepods were out during spring and fall, and in during summer, based on a total of six sampling days. Although Lehman et al. (2010) linked fluxes into Liberty Island with storage within the island, it was equally likely to have been a function of consumption, particularly since high inward fluxes of chlorophyll and zooplankton occurred in summer when biological activity would have been high.

A few other marshes and restoration sites in the estuary have been investigated for their potential links to open waters. The South Bay Salt Ponds, which began to be reconnected to the tidal action of the Bay in 2006, are highly productive and may export organic matter to nearby estuarine waters (Thebault et al. 2008). A marsh at China Camp in San Pablo Bay was a net sink for mysids, probably through predation within the marsh (Dean et al. 2005).

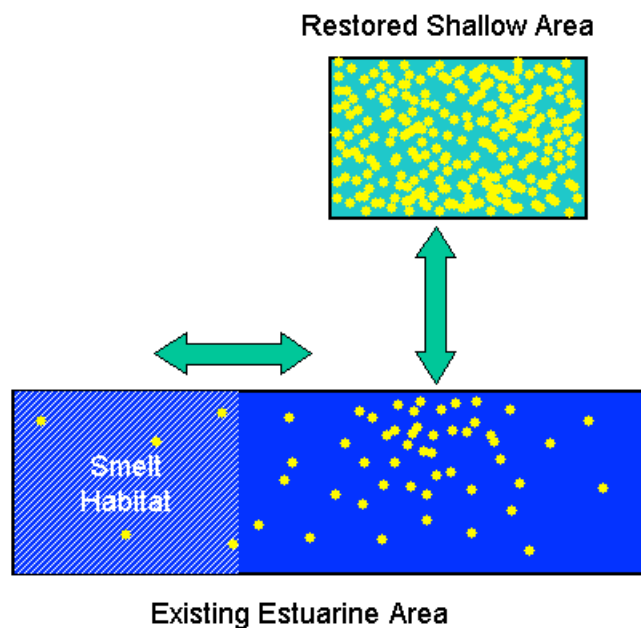
### *Calculated subsidies*

Here we assume that the restored areas will actually produce an excess of phytoplankton or zooplankton over adjacent waters, and ask what additional level of food availability to the smelt would result. This is based on a very simple model using data from IEP monitoring, described in detail in Appendix E (See Figure 7.2). The basis of this model is to calculate the subsidy based on high levels of biomass and growth rate in a 2500-acre marsh that is closely connected to smelt habitat and has an optimum rate of exchange with the open water. We assume smelt habitat is represented by the Low-Salinity Zone (LSZ), which has a volume of about 0.5 km<sup>3</sup>.

A subsidy is maximized by a large marsh close to the smelt habitat, with tidal exchange close to but not above the net population growth rate of the plankton (Figure 7.3). The subsidy is degraded or even reversed by consumption (clams, planktivorous fish) within the marsh. Water depth may have a positive or negative effect on the subsidy.

The simple model in Appendix E shows that under an extremely favorable set of conditions both within and outside of the marsh, a modest subsidy of phytoplankton is possible.

Phytoplankton input to the LSZ could amount to 16%/day, or about half of the daily net production in the LSZ. However, smelt species do not eat phytoplankton, and the conversion of phytoplankton to zooplankton depends on factors in the open water such as grazing. The direct subsidy of zooplankton would be about 3%/day, also under unrealistically ideal conditions. Although this is not negligible, any reduction in this value would effectively eliminate the subsidy to open water.



**Figure 7.2. Schematic diagram of a subsidy of zooplankton (yellow circles) from a restored tidal marsh or other shallow area to an existing estuarine area. Zooplankton move by dispersion (double-sided arrows) between the restored and existing areas, and within the existing area from the outlet of the restored area to other regions of the estuary including smelt habitat. Advection may alter the flow of zooplankton, for example, if the restored area is on a creek that produces a net flow into the existing area.**

#### *Zooplankton export from Suisun Marsh*

One of the proposed restoration areas is in the northern end of Suisun Marsh. We estimated the subsidy of copepods to the LSZ from this region using IEP monitoring data and using a particle-tracking model to estimate exchange rate (Appendix E). If the copepods behaved as passive particles, this subsidy would amount to about 2%/d of the population in the LSZ. This is unlikely to produce a noticeable increase in copepod biomass, as their potential population growth rates are on the order of 10%/d. However, particles that migrate to the bottom tidally or remain near the bottom, as most zooplankton

do in the estuary (Kimmerer et al. 2002), were essentially trapped within the northern marsh. Behavioral responses to tidal currents, consumption within the marsh, the distance from the mouth of the marsh to the habitat of the smelts, and the operations of the salinity control gate on Montezuma Slough would all reduce or even eliminate this subsidy.

### *The real world*

Several features of the actual restoration site would alter the subsidy to open waters from the analyses above. First, the enlarged restoration area will alter the tidal prism and therefore the exchange rate. The proposed restoration for Suisun Marsh would increase the inundated area 2-3-fold, with a corresponding increase in tidal currents. Since most of the exchange will be mediated by tides, this could substantially increase the exchange rate. Whether this would increase or decrease the subsidy would depend on the net population growth rate achieved in the marsh in relation to the exchange rate. Resolving the change in residence time would require a 3D model with very accurate bathymetry throughout the region. It is impossible to tell with available information whether the stronger tidal connections would result in a greater subsidy from Suisun Marsh, or whether this would be offset by zooplankton behavior or by consumption within the marsh. Such calculations could be done using a hydrodynamic and particle tracking model and some reasonable assumptions about zooplankton behavior.

The BDCP documents acknowledge (but then mostly ignore) that grazing by clams that settle in or near restored subtidal areas may remove all or most of the phytoplankton production and some of the zooplankton. Grazing by clams and zooplankton (including microzooplankton) removed all of the phytoplankton production in the LSZ nearly all the time from late spring through fall during 1988 – 2008 (Kimmerer and Thompson submitted.). Whether clams settle in the newly restored areas is critical in determining whether the area can export any phytoplankton (Lucas and Thompson 2012). At present clams are not abundant in Suisun Marsh except for the larger Suisun and Montezuma Sloughs, where they probably remove a substantial fraction of the phytoplankton and small zooplankton that would otherwise enter Grizzly Bay.

Zooplankton organisms are not passive, and undergo tidal migrations in Suisun Bay (Kimmerer et al. 1998, 2002). It is very likely that they will do so also in marsh channels, which would greatly lengthen the residence time for copepods produced in the marsh, particularly in the far northern area of Suisun Marsh. In addition, several studies have shown that zooplankton organisms may also be consumed by various planktivorous fish within a marsh, resulting in a net flux of zooplankton into the marsh (see literature review above).

Finally, some of the proposed restoration sites are far from the centers of distribution of delta and longfin smelt. Travel times from these sites to where the fish are may be on the order of weeks to months in the dry season or when the North Delta diversions are operating (Kimmerer and Nobriga 2008). A plankton population can double or halve its biomass in a few days depending on local food supply and predation. Thus, any export of zooplankton from a restored area should be assumed to subsidize only the local area.

All of these considerations are based on rather crude models of exchange and population processes. That is appropriate given the level of specificity of the BDCP design.



Nevertheless, this analysis raises significant questions about the putative subsidy from restored areas to estuarine foodwebs. To address this uncertainty, long before any actual restoration takes place a program of analysis, modeling, and experimental restoration should be undertaken.

### Likely use of restored areas

Like other fish, smelt use a variety of habitats and appear to explore their environment to find suitable places for spawning, growth, and development. As pelagic fish, their principal habitat is open waters of the estuary, either in freshwater during the larval to early juvenile stages in spring to early summer, or in the low-salinity zone until winter. The low-salinity zone during summer-fall is generally in the western Delta and Suisun Bay, including the channels of Suisun Marsh. Delta smelt appear to be surface-oriented, which would allow them access to shallow areas (Aasen 1999).

The fundamental problem for both smelt species in the open-water, brackish regions of the estuary is the low food supply (discussed above) and possibly also the decreasing turbidity (Kimmerer 2004). Those trends may be difficult to reverse, spelling trouble ahead for the smelts. However, in recent years some proportion of the delta smelt population has remained in freshwater in the Cache Slough complex, despite high temperature there (Sommer and Mejia 2013). This may provide an alternative habitat in which the smelt population can either avoid poor conditions in the LSZ, or hedge its bets on future conditions. Longfin smelt are apparently not very abundant in Cache Slough.

Delta and longfin smelt have been collected in the Suisun Marsh fish survey (Matern et al. 2002). Delta smelt are not common in Suisun Marsh during summer-fall but were formerly common in winter to early spring (Matern et al. 2002) when the fish are migrating and spawning. About 0.7% of 3291 otter trawl samples from the Suisun Marsh survey during May-October of 1982 – 2009 and about 3% of 3320 samples during November – April contained delta smelt, mostly maturing juveniles and adults. The low catches in summer were not due to small size of the fish, since young-of-the-year longfin smelt of the same size range were captured frequently in that program. Temperature in the larger sloughs is ~1°C higher than in Grizzly Bay in July and August, based on IEP and UC Davis monitoring data, but if smelt avoid the warmer water in summer it does not explain the low catches for all of May-October. Longfin smelt are much more abundant in the Suisun Marsh channels than delta smelt, occurring in 8% of samples in May-October and 12% of samples in November-April with no obvious differences among the various sloughs.

The 20mm survey catches smelts during spring-summer in Montezuma Slough in Suisun Marsh and in central Suisun Bay including one station in Grizzly Bay near the major western entrance to the marsh. A graphical comparison of catch per trawl in these locations did not reveal a consistent difference for either species. A similar comparison of catch per trawl between Montezuma Slough and Grizzly Bay in the Fall Midwater Trawl survey also did not reveal a consistent difference, except that delta smelt were somewhat less abundant in the slough than in Grizzly Bay during September. Thus, it appears delta and longfin smelt are roughly as abundant in the larger sloughs of Suisun Marsh as in the open water of the estuary.

The key question for this aspect of restoration is whether additional physical habitat would result in larger populations of smelt. Abundance of delta smelt is related to an index of habitat availability based on salinity and turbidity (Feyrer et al. 2007, 2011, Nobriga et al. 2008). However, the size of the LSZ (volume or area) does not seem to be strongly related to the abundance of either smelt species (Kimmerer et al. 2009, in press). This may be because the LSZ is a contiguous stretch of water whose physical features are ephemeral, and the fish can move around readily within that region. In contrast, shallow tidal areas may offer enough physical structure to provide a wealth of sub-habitats with variable conditions. In that case, having more habitat area could lead to a greater abundance of fish. Note that a relationship between the quantity of habitat and the size of a fish population need not rely on a density-dependent relationship between habitat and the survival or reproduction of individual fish, which seems unlikely for delta smelt at current population levels.

Thus, we are cautiously optimistic that restoration of habitat may result in colonization and subsequent population expansion of delta smelt in the Cache Slough area including the Sacramento Ship Channel (Moyle 2008, Sommer and Mejia 2013). Longfin smelt seem unlikely to benefit from this. We cannot determine whether either species would benefit from similar restoration in the Suisun Marsh or the western Delta. The other restoration sites are too remote from the current population centers to offer much reason for optimism about their colonization by either smelt species.

## **Floodplain**

The BDCP proposes to alter the Fremont Weir at the upstream end of the Yolo Bypass so that the Bypass would flood at lower stages of the Sacramento River. We consider here only the likely effects on the smelt species.

### **Review of conceptual basis**

Although the smelt species do not use floodplain as habitat, elevated production of plankton on the floodplain may provide a subsidy to smelt habitat. This situation differs slightly from that of the potential subsidy from marshes discussed above. First, the floodplain is a flow-through system so that increased biomass of plankton will be transported by the mean, river-derived flow rather than by tidal flow. Second, residence time on a floodplain varies with flow conditions, from hours to a few days under high-flow conditions to effectively infinite in ponds remaining after the floodplain stops draining.

### **Analysis of components**

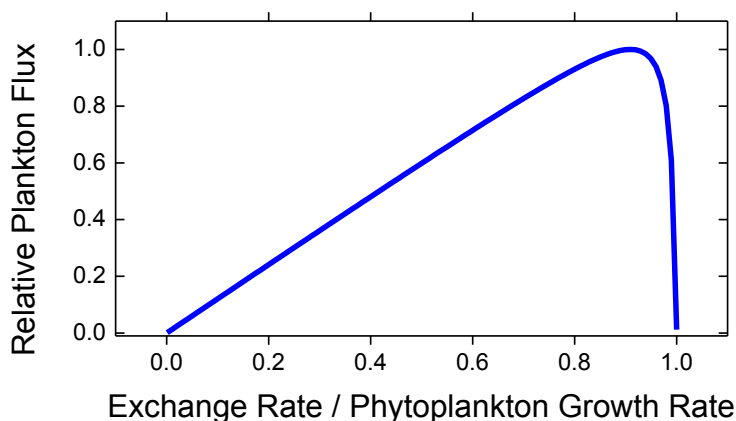
Apart from its suitability as habitat for fish and other species, the Yolo Bypass may also support foodwebs within the estuary. The mechanism for this would be higher phytoplankton and zooplankton production because of shallow depth and better light penetration than in river channels, as well as higher temperature (Lehman et al. 2007). Whether this translates to zooplankton is uncertain; zooplankton abundance on the Bypass was similar to that in the Sacramento River during 1998-2001 (Sommer et al. 2004). Plankton biomass on a floodplain may increase late in the season as residence time

increases and fish switch to larger prey (Grozholz and Gallo 2006), but that was not observed on the Yolo Bypass in most years (Sommer et al. 2004).

At very high flows residence time on the Bypass is probably too short to allow for a buildup of biomass, while at lower flows such a buildup may occur but the rate of export may be low (Schemel et al. 2004). This implies that, as with tidal exchange in marshes (Figure 7.3), there is an intermediate range of flow that maximizes export of plankton.

A subsidy from the Yolo Bypass may be more or less direct to delta smelt habitat, notably in the Cache Slough complex at the southern end of the Bypass. In addition, it may subsidize the low-salinity habitat used by both smelt species in late spring through fall.

In Appendix F we examine the evidence for a subsidy of zooplankton to the open water of the estuary under the current configuration using existing zooplankton data. We do not actually calculate the magnitude of the subsidy, since several factors would intervene to alter conditions. In particular, the Bypass could be flooded later in the year than is now the case, and the greater light penetration and higher temperature would provide for greater plankton production than now occurs. Furthermore, Bypass flow would represent a greater proportion of total inflow to the Delta later in the year, resulting in less dilution of the plankton coming off the Bypass.



**Figure 7.3. Relative magnitude of phytoplankton flux from a tidal marsh as a function of exchange rate, scaled to the growth rate of the phytoplankton. The model is based on a balance among import of nutrients to the marsh, uptake of nutrients to support growth of phytoplankton, and export of phytoplankton. All nutrient uptake is by phytoplankton, there is no consumption, and the phytoplankton concentration in the receiving water is zero.**

Our analysis shows no evidence that the open waters of the estuary receive a detectable subsidy of phytoplankton or zooplankton. If anything, plankton abundance is inversely related to Yolo Bypass flow, either during the month of sampling between flow during the winter and zooplankton abundance in the following summer.

## Conclusions

There are many reasons for restoring physical habitat in the Delta and Suisun Marsh, and a host of species that are likely to benefit. Among the listed fish species, young salmon use marsh and floodplain during residence, salutatory downstream movement, and active migration. However, it is unclear whether conditions in the Delta have a substantial role in the population dynamics of salmon, and therefore we have elected to focus on the smelt species, for which the Delta is a key part of home (Sommer and Mejia 2013).

The BDCP is overly optimistic about the potential benefits to delta and longfin smelt of physical habitat restoration. Longfin smelt do not appear to use marshes as habitat to any great extent. Delta smelt are also considered pelagic but their persistent abundance in the Cache Slough complex, and greater abundance in shallow rather than deep water, suggests some potential benefit to their population of expanded marsh in that area. The magnitude of this benefit is impossible to predict, as is the degree to which marsh and floodplain restoration might cause an increase, or reverse the decline, in the delta smelt population. Under these conditions it is premature to assert that the restoration activity will have such an effect, until studies including pilot projects and even some smaller full-scale restoration projects can show whether an effect is to be expected.

The idea that restored marsh and floodplain will export substantial amounts of zooplankton to the open waters of the estuary is not tenable. The ecology of shallow waters suggests that shallow areas are more likely to be sinks for zooplankton. Even if they were sources, simple mass-balance considerations indicate that the resulting export would produce at most a small enhancement of extant zooplankton of the open waters. This idea should be dropped from discussions of BDCP, although experimental work should press ahead to determine under what conditions marsh habitats could be sources of significant food for delta and longfin smelt in the open waters.

# Chapter 8: Regulatory Oversight and Assurances

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## Introduction

The previous chapters have demonstrated the relatively high uncertainties associated with proposed conservation actions in BDCP. These uncertainties will likely result in the need to change Plan goals and objectives in the future, along with the prescribed conservation measures to address them.

This chapter addresses the question whether the draft Bay Delta Conservation Plan includes governance policies that are “transparent and resilient to political and special interest influence.” We divide our analysis into two parts: (1) analysis of the regulatory oversight of plan implementation and adaptive management; and (2) evaluation of the regulatory assurances and proposed 50-year “no surprises” guarantee.

## Regulatory Oversight

### Introduction

The draft BDCP vests primary responsibility for implementing the Plan in a Program Manager, who shall “ensure that the BDCP is properly implemented throughout the duration of the Plan” (BDCP 7-2). The Program Manager’s authority is broad and includes protection and restoration of habitat, reduction of ecological stressors, management of conserved habitat, coordinated operation of the CVP and SWP, and development of the new facilities authorized by the Plan (BDCP 7-3).<sup>1</sup>

The Program Manager’s implementation of the BDCP is subject to oversight by the Authorized Entity Group, which will be comprised of the Director of the California Department of Water Resources as operator of the SWP, the Regional Director of the U.S. Bureau of Reclamation as operator of the CVP, and one representative each of the CVP and SWP contractors if the contractors are issued permits under the Plan (BDCP 7-8).<sup>2</sup> The BDCP also covers certain diversions of water that are not part of CVP or SWP operations and recognizes that these water supply operators may seek incidental take permits under the terms and conditions of the BDCP. If this occurs, these water projects would become Authorized Entities, but would not be members of the Authorized Entity Group (BDCP 7-8).

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<sup>1</sup> The Program Manager also will have responsibility over the Implementation Office, which will assist the Program Manager in all aspects of implementation of the Plan, BDCP 7-4 to 7-5, and the Science Manager and Adaptive Management Team as described in Chapter 9 of this report.

<sup>2</sup> A question has arisen whether the fish and wildlife agencies legally may grant incidental take permits to the CVP and SWP contractors under the federal Endangered Species Act and the California Natural Community Conservation Planning Act. We address this question in the Appendix G.

The Authorized Entity Group’s authority over the BDCP also is broad and multifaceted. The draft BDCP states:

The Authorized Entity Group will provide oversight and direction to the Program Manager on matters concerning the implementation of the BDCP, provide input and guidance on general policy and program-related matters, monitor and assess the effectiveness of the Implementation Office in implementing the Plan, and foster and maintain collaborative and constructive relationships with the State and federal fish and wildlife agencies, other public agencies, stakeholders and other interested parties, and local government throughout the implementation of the BDCP (BDCP 7-8 to 7-9).

This oversight structure means that the Authorized Entity Group will exercise significant authority over both the coordinated operation of the CVP and SWP and implementation of the BDCP itself. Indeed, the draft Plan declares that the Program Manager “will report to the Authorized Entity Group, and act in accordance with the group’s direction” (BDCP 7-2).

The draft Plan vests regulatory responsibility within the BDCP in a “Permit Oversight Group,” which is composed of the Regional Director of the U.S. Fish and Wildlife Service, the Regional Administrator of the National Marine Fisheries Service, and the Director of the California Department of Fish and Wildlife (BDCP 7-11). It then states that the three agencies “are expected to issue regulatory authorizations to the Authorized Entities” pursuant to the federal Endangered Species Act and the California Natural Community Conservation Act (BDCP 7-11).

The draft Plan also provides that, “[c]onsistent with their authorities under these laws, the fish and wildlife agencies will retain responsibility for monitoring compliance with the BDCP, approving certain implementation actions, and enforcing the provisions of their respective regulatory authorizations” (BDCP 7-11). This means that, although the USFWS, NMFS, and CDFW will work together as members of the Permit Oversight Group for the purpose of supervising implementation of the BDCP, each agency will retain its independent regulatory powers over the CVP, SWP, and other water users under the federal and state Endangered Species Acts.<sup>3</sup>

This structure is consonant with both the Endangered Species Acts and the California Natural Community Conservation Planning Act, because it separates the regulatory oversight responsibilities of the federal and state fish and wildlife agencies from the operational responsibilities of the Program Manager and the Authorized Entity Group. This structural delineation is undermined, however, by the draft Plan’s more detailed definition of the “function” of the Permit Oversight Group, which blurs the distinction between implementation and regulation. It also is undermined by provisions in the draft Plan that grant the Authorized Entity

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<sup>3</sup> This independent regulatory authority is subject, however, to an important caveat—the draft Plan’s requirement of consistency between future section 7 consultations and the BDCP—as described below. *See pp. 7-8 to 7-9.*

Group—rather than the regulatory agencies—veto authority over changes to the conservation measures, biological objectives, and adaptive management strategies, as well as over amendments to the BDCP itself.

### Regulatory vs. Programmatic Responsibilities: Implementation

The draft Plan grants the Permit Oversight Group a significant role in implementing the conservation goals and adaptive management strategies of the BDCP:

The Permit Oversight Group will be involved in certain decisions relating to the implementation of water operations and other conservation measures, actions proposed through the adaptive management program or in response to changed circumstances, approaches to monitoring and scientific research (BDCP 7-11).

It then provides that the Permit Oversight Group “will have the following roles, among others, in implementation matters”:

- *Approve, jointly with the Authorized Entity Group, changes to conservation measures or biological objectives proposed by the Adaptive Management Team.*
- *Decide, jointly with the Authorized Entity Group, all other adaptive management matters for which concurrence has not been reached by the Adaptive Management Team.*
- Provide input into the selection of the Program Manager and the Science Manager.
- *Provide input and concur* with the consistency of specified sections of the Annual Work Plan and Budget with the BDCP and with certain agency decisions.
- *Provide input and concur* with the consistency of the Annual Delta Water Operations Plan with the BDCP.
- Provide input and accept Annual Reports.
- *Provide input and approve* plan amendments<sup>4</sup> (BDCP 7-11 to 7-12: emphasis added).

These definitions are poorly drafted, and they assign programmatic authority to the fish and wildlife agencies that may undermine their regulatory responsibilities. We therefore recommend that the draft BDCP be revised in two ways:

First, where the parties to the negotiations want to grant the Permit Oversight Group authority to determine whether certain actions or documents are consistent with the BDCP, the Plan should define its responsibilities more clearly and precisely than does the current language—*e.g.*, “provide input and concur”; “provide input

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<sup>4</sup> The draft Plan also contains a placeholder “function,” which states that the Permit Oversight Group also may play a role in “decision-making regarding real-time operations, consistent with the criteria of *CM1 Water Facilities and Operation* and other limitations set out in the BDCP and annual Delta water operations plans.” As the details of this role are still under negotiation, we do not address it here except to note that the role of the Permit Oversight Group should be clearly defined and limited to regulatory oversight as explained in the text.



and accept”; and “provide input and approve.” Thus, the draft Plan should be revised to state:

The Permit Oversight Group shall have exclusive authority to determine whether the Annual Work Plan Budget and Annual Delta Operations Plan are consistent with the BDCP. If the Permit Oversight Group does not issue a determination of consistency, the document in question shall be revised and resubmitted to the Permit Oversight Group for approval or further remission and revision.

Second, the Permit Oversight Group’s role should be limited to regulatory oversight. The “functions” listed in the draft Plan conflate the Permit Oversight Group’s regulatory responsibilities with the programmatic implementation duties that are best left with the Program Manager and the Authorized Entities Group. Although there is some practical value in collaboration among the regulators and the regulated—*e.g.*, having the fish and wildlife agencies give their “input” during the drafting of annual operations plans—it is better policy to maintain the exclusive regulatory role of the Permit Oversight Group. A regulatory agency that has a stake in the creation of the program and policy decisions that it must ultimately review will not be able to bring its independent judgment to bear in evaluating those same decisions for consistency with the Plan and other applicable laws.

The conflation of regulatory and programmatic responsibilities is especially dangerous in the case of revisions to the biological objectives, conservation measures, and other adaptive management strategies. As currently written, the draft Plan grants the Authorized Entity Group an effective veto over proposed changes to these programs, even if the Adaptive Management Team, the Science Manager, the Program Manager, and the Permit Oversight Group have concluded that changes are needed to ensure programmatic compliance with the BDCP or to fulfill the requirements of the federal and state Endangered Species Acts (BDCP 7-11).

A better course would be to revise the draft Plan to allow the Science Manager and Adaptive Management Team—subject to oversight and approval from the Program Manager and Authorized Entity Group—to make revisions to the biological objectives, conservation measures, and other adaptive management strategies. These changes then would be submitted to the Permit Oversight Group for review and approval or remission. The Permit Oversight Group also should have independent authority to revise the biological objectives, conservation measures, and other adaptive management strategies if it concludes that the existing programs are inadequate to comply with the BDCP or other governing law.

### **Regulatory vs. Programmatic Responsibilities: Policy Modifications and Amendments to the BDCP**

A similar problem exists for modifications to the BDCP itself. The draft Plan recognizes that “Plan modifications may be needed periodically to clarify provisions or correct unanticipated inconsistencies in the documents” (BDCP 6-45). It then



identifies three types of plan modifications: administrative changes, minor modifications, and formal amendments. Only the latter two concern us here.

The draft Plan defines “minor modifications” as including transfers of acreage between Restoration Opportunity Areas or conservation zones and “[a]djustments of conservation measures or biological objectives . . . consistent with the monitoring and adaptive management program and intended to enhance benefits to covered species” (BDCP 6-46). It then describes “formal amendments” as including, but not limited to:

- Changes to the geographic boundary of the BDCP.
- Additions of species to the covered species list.
- Increases in the allowable take limits of covered activities or the addition of new covered activities to the Plan.
- Substantial changes in implementation schedules that will have significant adverse effects on the covered species.
- Changes in water operations beyond those described under *CM1 Water Facilities and Operations*. (BDCP 6-47).

The “minor modifications” and “formal amendments” thus include all aspects of BDCP implementation that will be vital to the success or failure of the BDCP. Yet, the draft Plan expressly provides that the Authorized Entities may veto any such changes.<sup>5</sup> For minor modifications, the draft BDCP states: “If any Authorized Entity disagrees with the proposed minor modification or revision for any reason, the minor modification or revision will not be incorporated into the BDCP” (BDCP 6-46).<sup>6</sup> The draft Plan similarly declares that formal amendments “will be subject to review and approval by the Implementation Office and the Authorized Entities.”<sup>7</sup>

The BDCP is fundamentally a set of terms and conditions that allow the principal regulatory agencies—the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Wildlife—to authorize the construction and operation of physical improvements to the Delta that will facilitate more reliable (and, one may hope, more environmentally sustainable)

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<sup>5</sup> Please note that the draft BDCP states that the Authorized Entities—not the Authorized Entity Group—hold this veto power. This may be a typographical error, as the Authorized Entities are not granted implementation decisionmaking authority (except through the Authorized Entity Group) any other place in the document. If it the BDCP negotiators in fact intend to vest veto authority in the Authorized Entities, however, this is especially problematic as the Authorized Entities potentially include water users other than those that comprise the Authorized Entity Group. BDCP 7-8.

<sup>6</sup> By contrast, if any of the fish and wildlife regulatory agencies disagrees with a proposed minor modification, its rights are limited to insisting that the proposal be treated as a formal amendment to the Plan. BDCP 6-46.

<sup>7</sup> At least in the case of formal amendments the draft Plan recognizes a relative parity in the rights of the regulators and the regulated, acknowledging that such amendments “will require corresponding amendment to the authorizations/ permits, in accordance with applicable laws and regulations regarding permit amendments.” BDCP 6-47. It also states, however, that the “fish and wildlife agencies will use reasonable efforts to process proposed amendments within 180 days.” BDCP 6-46.

exports of water by the CVP and SWP. Although the motivating purpose of the BDCP is to facilitate this water development, the regulatory agencies' foundational responsibility is to ensure that the project does not jeopardize the continued existence of the species that are listed for protection under the federal and state Endangered Species Acts.

To accomplish this essential obligation, the fish and wildlife agencies must both insist on an initial set of biological objectives, conservation measures, and conditions on coordinated project operations that will fulfill this purpose; *and* they must have the means of ensuring that the implementation of the BDCP will continue to achieve that goal throughout its fifty year term.

We do not believe that the draft Plan satisfies this second requirement, as it vests veto authority over necessary changes in the biological objectives, conservation measures, adaptive management strategies, and the terms and conditions of the BDCP itself, not in the regulatory agencies, but in the regulated entities that comprise the Authorized Entity Group. We therefore recommend revision of the draft Plan to require that all “minor modifications” and “formal amendments” to the BDCP be subject to review and approval by the Permit Oversight Group.

As explained above, we also recommend that the draft Plan be revised to authorize the Permit Oversight Group itself to initiate and make changes to the biological objectives, conservation measures, and other adaptive management strategies that the fish and wildlife agencies conclude are needed to ensure the protection and recovery of the species listed under the federal and state Endangered Species Acts. This unilateral authority must extend to all of the identified “minor modifications” and to at least one of the defined “formal amendments”—*viz.* “substantial changes in implementation schedules that will have significant adverse effects on the covered species” (BDCP 6-47).<sup>8</sup>

The other listed “formal amendments”—which include alteration of the geographic boundaries of the Plan and the addition of new species and covered activities—are different, as they include possible changes to the scope and structure of the BDCP, rather than adaptive changes to the implementation and achievement of the goals of the existing BDCP. The draft Plan therefore properly states that formal amendments

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<sup>8</sup> The governance structure set forth in the current draft Plan also may jeopardize the likelihood that the BDCP will be incorporated into the Delta Plan. *See* California Water Code § 85320-85322. The Delta Reform Act provides:

The BDCP shall include a transparent, real-time operational decisionmaking process in which *fishery agencies ensure that applicable biological performance measures are achieved in a timely manner with respect to water system operations.* [*Id.* § 85321 (emphasis added).]

The Authorized Entity Group's veto authority over changes to the biological objectives, conservation measures, and adaptive management strategies means that the fish and wildlife agencies would not have the power to ensure that the biological measures will be achieved. The draft Plan therefore violates this statutory mandate, and the CDFW and the Delta Stewardship Council consequently would likely be precluded from incorporating the BDCP into the Delta Plan.

"will involve the same process that was required for the original approval of the BDCP"--i.e., approval of both the Authorized Entities and the Permit Oversight Group (BDCP 6-47).<sup>9</sup>

## Regulatory Assurances and the “No Surprises” Policy

### Introduction

The draft Plan proposes to create two types of “regulatory assurances.” First, it seeks to eliminate the uncertainties associated with consultation under section 7 of the federal Endangered Species Act for coordinated CVP and SWP operations by stipulating that future biological opinions shall be consistent with the terms and conditions of the BDCP. Second, it offers “no surprises” guarantees both for deviations between the biological opinions and the BDCP and for future changes to the BDCP itself. In addition, the draft Plan places difficult scientific, legal, and political burdens on the state and federal governments’ power to terminate the incidental take permits and to rescind the BDCP.

In our judgment, these regulatory assurances compound the risks described in the preceding section because they severely constrain the fish and wildlife agencies’ ability to respond to inadequacies in the biological objectives, conservation measures, and other adaptive management strategies—even apart from the veto authority that the draft Plan vests in the Authorized Entity Group.

### Section 7 Consultation and the BDCP

According to the draft Plan, once the facilities authorized by the BDCP are constructed, the Plan will largely displace the existing section 7 consultation requirements applicable to coordinated CVP and SWP operations: “On the basis of the BDCP and the companion biological assessment, it is expected that USFWS and NMFS will issue a new joint biological opinion (BiOp) that would supersede BiOps existing at that time as they relate to SWP and CVP actions addressed by the BDCP” (BDCP 4-2). The draft Plan then requires that the new biological opinion (as well as any subsequent biological opinions issued during the 50-year term of the BDCP) be consistent with the terms and conditions of the BDCP itself:

The BDCP is intended to meet the requirements of the ESA and provide the basis for regulatory coverage for a range of activities identified in the Plan. . . .

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<sup>9</sup> The draft Plan also provides that, “[i]n most cases, an amendment will require public review and comment, CEQA and NEPA compliance, and intra-Service Section 7 consultation,” and it requires the fish and wildlife agencies to use “reasonable efforts to process proposed amendments within 180 days.” BDCP 6-47. 180 days is probably insufficient time, however, to allow for section 7 consultation, internal agency analysis of the effects of proposed formal amendments on listed species and their habitat, and the drafting, public review, and completion of a new or supplemental EIS/EIR.

It is also worth noting that even this limited “bilateral” approval process for structural amendments to the BDCP may not be consistent with federal law. The ESA rules provide that all incidental take permits “are issued subject to the condition that the National Marine Fisheries Service reserves the right to amend the provisions of a permit for just cause at any time during its term.” 50 C.F.R. § 222.306(c).

Unless otherwise required by law or regulation, in any Section 7 consultation related to a covered activity or associated federal action and covered species, USFWS and NMFS will each ensure that the resulting BiOps are consistent with the integrated BiOp for the BDCP (BDCP 6-44).

We do not necessarily object to this consistency directive. An important goal of the BDCP is to provide all parties—especially the Authorized Entities—with a measure of regulatory and operational certainty that will enable them both to invest in the new facilities and to make water management decisions in their respective service areas in reliance on water deliveries from the CVP and SWP. To the extent that future section 7 consultations conform to the terms of the BDCP, that certainty is enhanced. We also note the first clause of the second sentence quoted above, which expressly reserves the authority of USFWS and NMFS to issue biological opinions that depart from the terms of the BDCP if necessary to comply with the governing law. This law, of course, includes section 7(a)(2) of the federal ESA, which requires all consulting agencies to ensure that their actions are “not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of [critical] habitat.” 16 U.S.C. § 1536(a)(2).

We do believe, however, that the proposal to substitute the BDCP for section 7 consultation as the principal means of applying the federal Endangered Species Act to the CVP, SWP, and other Authorized Entities reinforces our recommendations from the preceding section—*viz.* that the Permit Oversight Group must maintain the independent regulatory prerogatives that the fish and wildlife agencies currently possess and must have authority to approve or to deny proposed changes in the biological objectives, conservation measures, and other terms and conditions of the BDCP as required to protect and recover the species covered by the Plan. Our support for the biological opinion/BDCP consistency directive should be read with this caveat.

### “No Surprises”

The draft Plan contains two “no surprises” guarantees. The first applies to changes in coordinated CVP and SWP operations or water supply capabilities that may be required by future biological opinions that do not conform to the BDCP. The second is a more general “no surprises” commitment that protects the Authorized Entities from certain changes to the BDCP itself<sup>10</sup>.

According to the draft Plan, “Ecological conditions in the Delta are likely to change as a result of future events and circumstances that may occur during the course of the implementation of the BDCP” (BDCP 6-30). The draft then lists seven “Changed Circumstances Related to the BDCP”—levee failures, flooding, new species listings, wildfire, toxic or hazardous spills, nonnative invasive species, and climate change (BDCP 6-31). For each of these “reasonably foreseeable” changes, the draft Plan describes the “planned responses” that BDCP administrators will undertake (BDCP

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<sup>10</sup> As noted in chapter 2, USBR is not covered by the “no surprises” assurance. BDCP 6-29.

6-31 to 6-42).<sup>11</sup> The draft Plan states that the responses “have been designed to be practical and roughly proportional to the impacts of covered activities on covered species and natural communities, yet sufficient to effectively address such events” (BDCP 6-30). The BDCP budget will include funds to cover the costs of implementing some of the planned responses to “reasonably foreseeable” changed circumstances (BDCP 6-30).<sup>12</sup>

The draft Plan also recognizes that “unforeseen circumstances” may require changes to the biological objectives, conservation measures, adaptive management strategies, or the terms and conditions of the BDCP itself. It defines unforeseen circumstances as “changes in circumstances that affect a species or geographic area covered by an HCP that could not reasonably have been anticipated by the plan participants during the development of the conservation plan, and that result in a substantial and adverse change in the status of a covered species” (BDCP 6-42 citing 50 C.F.R. § 17.3 & 50 C.F.R. § 222.102). The draft Plan contains a similar definition of “unforeseen circumstances” under state law. These are “changes affecting one or more species, habitat, natural community, or the geographic area covered by a conservation plan that could not reasonably have been anticipated at the time of plan development, and that result in a substantial adverse change in the status of one or more covered species” (BDCP 6-43 citing California Fish & Game Code § 2805(k)).

The draft Plan then sets forth the following regulatory assurances under federal and state law:

Under ESA regulations, if unforeseen circumstances arise during the life of the BDCP, USFWS and/or NMFS may not require the commitment of additional land or financial compensation, or additional restrictions on the use of land, water, or other natural resources other than those agreed to in the plan, unless the Authorized Entities consent (BDCP 6-42).

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<sup>11</sup> The Implementation Office is charged with identifying the onset of a changed circumstance, working with the Permit Oversight Group to fashion a response, and for implementing and monitoring the responsive actions (BDCP 6-31).

<sup>12</sup> This funding process is described in Chapter 8 of the draft BDCP. *See* BDCP 8-60 to 8-64. The draft states generally that, to “allow for the ability to respond to changed circumstances should they occur, the Implementation Office should maintain a reserve fund for covering costs of changed circumstances” (BDCP 8-61). The draft Plan explains that this is because “the risk of some changed circumstances—*e.g.*, failure of levees attached to tidal marsh and floodplain restoration—and cost of remedial measures increases as greater portions of the conservation strategy are implemented.” *Id.*

The draft BDCP only includes levee failure and wildfire damage to preserved lands as possible “changed circumstances for which responses are expected to result in additional implementation costs.” *Id.* It omits “changed circumstances related to climate change, flooding, failure of water operations infrastructure, nonnative invasive species, new species listings, and toxic or hazardous spills,” explaining that the response costs for these are accounted for in the initial BDCP funding, will be paid by the state and federal governments under the “no surprises” guarantees, or would be the responsibility of a third party. BDCP 8-61 to 8-62.

In the event of unforeseen circumstances, CDFW will not require additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources without the consent of the plan participants for a period of time specified in the Implementation Agreement (BDCP 6-43).<sup>13</sup>

As noted above, for federal agencies that are subject to section 7 consultation (including consultation for coordinated CVP/SWP operations), the draft Plan contains an additional “no surprises” pledge if new biological opinions contain operational or water supply restrictions that differ from those set forth in the BDCP:

Furthermore, USFWS and NMFS will not require additional land, water, or other natural resources, or financial compensation or additional restrictions on the use of land, water, or other natural resources regarding the implementation of covered activities beyond the measures provided for under the BDCP, the Implementing Agreement, the incidental take permits, and the integrated BiOp (BDCP 6-44).

The purpose of these regulatory assurances is to exempt the Authorized Entities from any of the costs of complying with the federal and state Endangered Species Acts except as defined in (and funded pursuant to) the terms of the BDCP. These “no surprises” guarantees therefore may place the financial burden of some future changes to the BDCP and project operations exclusively on state and federal taxpayers.

Although both federal Endangered Species Act regulations and the California Natural Community Conservation Planning Act authorize “no surprises” guarantees, we believe, given the uncertainties outlined in the previous chapters, that there is a significant risk that the costs of compensating the projects and their contractors for future “unforeseen” hydrologic, engineering, and operational changes will be excessive. More importantly, we are concerned that the state and federal governments’ assumption of liability may deter the fish and wildlife agencies from making changes to future biological opinions or to the BDCP itself that the agencies believe are necessary to protect and recover listed species. The following example focusing on the “reasonably foreseeable” changed circumstance of climate change illustrates our concerns.

The draft Plan defines climate change as “[l]ong-term changes in sea level, watershed hydrology, precipitation, temperature (air or water), or ocean conditions that are of the magnitude or effect assumed for the effects analysis and that adversely affect conservation strategy implementation or covered species are considered a changed circumstance” (BDCP 6-41). It then provides that the

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<sup>13</sup> The draft Plan notes that, under California law, “such assurances are not applicable in those circumstances in which CDFW determines that the plan is not being implemented in a manner consistent with the substantive terms of the Implementation Agreement.” BDCP 6-43 (citing California Fish & Game Code § 2820(f)(2)).

“occurrence of this changed circumstance will be determined jointly by the Implementation Office and fish and wildlife agencies” (BDCP 6-41).<sup>14</sup>

According to the draft Plan, however, alterations in the ecosystem and threats to listed species caused by climate change will not trigger any management or regulatory responses beyond those set forth in the BDCP. “Because the BDCP already anticipates the effects of climate change, no additional actions will be required to remediate climate change effects on covered species and natural communities in the reserve system” (BDCP 6-41). Rather, the Adaptive Management Team will monitor these changes and the Implementation Office will “continually adjust conservation measures to the changing conditions in the Plan Area as part of the adaptive management program” (BDCP 6-42).

The draft Plan also states that all responses to climate change “will be made as part of the adaptive management and monitoring program. Measures beyond those contemplated by the adaptive management and monitoring program are not likely to be necessary because the conservation strategy was designed to anticipate a reasonable worst-case scenario of climate change. *A change in conservation measures in response to climate change beyond that considered in Chapter 3, Conservation Strategy, and through the adaptive management and monitoring program is considered an unforeseen circumstance.*” (BDCP 6-42: emphasis added).

There are two serious problems with this changed circumstances strategy:

First, although the “biological goals and objectives [of the BDCP] have been established at the landscape level to take climate change into account during conservation strategy implementation,” and the “conservation strategy, monitoring and research program, and adaptive management and monitoring program already include responses to anticipate climate change effects at the landscape, natural community, and species scales” (BDCP 6-42), the draft Plan correctly anticipates that the biological objectives, conservation measures, and other adaptive management strategies are likely to be modified over time as required to respond to the changed conditions brought about by climate change. Yet, as described previously, all such modifications are subject to approval by the Authorized Entities (BDCP 6-46). The fish and wildlife agencies consequently lack independent authority to determine the appropriate policy and management responses to climate change, even within the confines of the defined responses set forth in Chapter 3 of the BDCP.

Second, changes in conservation measures that differ from the defined responses are “unforeseen circumstances,” which trigger the “no surprises” guarantee. Again, while the draft Plan anticipates a broad array of ecological changes likely to be caused by climate change, and lays out a detailed set of programmatic responses, it is folly to believe that the BDCP scientists and negotiators have correctly identified

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<sup>14</sup> We reiterate here the problems that we identified in the preceding section: conflation of the fish and wildlife agencies’ regulatory and programmatic roles and the granting of an effective veto to the regulated entities through the Implementation Office.

all of the hydrologic changes, biotic responses, and risks to the ecosystem that will in fact occur over time. As one recent interdisciplinary study of California water policy emphasized:

New approaches to ecosystem management under changing conditions will require continued, large-scale experimentation aided by computer modeling. This task is complex, because experiments, especially on a large scale, often yield ambiguous results. Also, as with hydrology, the past is not always a good predictor of the future with many ecosystems. Linking human and natural systems, combined with changes in climate and influxes of alien species, creates novel, dynamic ecosystems with no historical analog. Thus, efforts to restore ecosystem functions and attributes involve hitting a moving, only partially visible target. Finally, ecosystem changes are often nonlinear and interrelated. Declines in habitat quality or abundance reduce ecosystem resiliency, with the result that even small changes in conditions can lead to abrupt system collapse and reorganization to a new state. Such thresholds or tipping points are difficult to predict. *Taken together, these factors suggest that efforts to improve conditions for California's native aquatic species will necessarily involve trial and error, and that success is far from guaranteed.*

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The difficulty is compounded by the high uncertainty of success for specific actions, given ecosystem complexity, gaps in knowledge of how to manipulate many key processes, and, most important, continuing change in climate, invasive species, and other conditions in California. *As a result, a flow regime or water quality target that seems adequate today may not provide the same services in 20 to 30 years. Aiming at a moving target in semi-darkness means that there will be many misses.* (From: Hanak et al., 2011: emphasis added).

The potential consequences of the “no surprises” guarantee in this context are troubling. Fisheries biologists generally agree that diminished seasonal outflow and warming water temperatures place several listed species at risk of extinction (see Cloern et al., 2011; Moyle et al., 2013). The projects that would be authorized by the BDCP should reduce some of the sources of stress on these species by reducing entrainment and predation and by creating substitute habitat, but they will not address several other important stressors such as diminished summer and fall outflow and rising water temperatures. Therefore, sometime during the 50-year term of the BDCP, it may be necessary to construct additional upriver storage (*e.g.*, by increasing the capacity of Shasta Reservoir) to enable more sustained cold-water releases to protect salmon spawning and out-migration.

Yet, under the draft Plan, this action would constitute an “unforeseen circumstance,” because it falls outside the defined responses to climate change set forth in the BDCP. The consequence would be that the state and federal taxpayers would have to bear all of the costs of constructing and operating the new or expanded storage,



even though the fish and wildlife agencies determined that this action is needed to protect one or more listed species from extinction (while maintaining reservoir releases and exports at the levels and timing authorized by the BDCP).

Alternatively, if funding were not available to construct the new storage capacity, and the fish and wildlife agencies made jeopardy findings and issued new biological opinions that altered reservoir release requirements in a manner that reduced water supply or export capacity, the state and federal governments would have to compensate the Authorized Entities for the value of the lost water or the cost of replacement supplies.<sup>15</sup>

For these reasons, we do not believe that the 50-year “no surprises” guarantees are wise or prudent policy. We understand that the Authorized Entities seek to protect their capital investment and obtain maximum security of their water service capabilities, and that a relatively fixed set of biological objectives, conservation measures, and operational constraints help to achieve these goals (BDCP 1-26). But a 50-year commitment is ill-advised in an ecosystem as complex, variable, and scientifically inscrutable as the Delta. As our colleague Peter Moyle has observed, in the Delta Ecosystem, “[o]ver-negotiation of details in advance is unlikely to enable adequate responsiveness and flexibility” and “even the most well-informed, scientifically based management will encounter surprises and make mistakes” (From Moyle et al., 2012).

The parties to the BDCP negotiations therefore should consider separate “no surprises” guarantees—one governing construction of the BDCP projects, and a series of operational “no surprises” commitments that would be reevaluated every

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<sup>15</sup> During the July 23, 2013, meeting with DWR Director Mark Cowin and CDFW Director Chuck Bonham, Director Cowin stated that it was not the parties’ intent to apply the “no surprises” policy to actions taken outside the plan area that may be required to address the effects of climate warming or other changed conditions on listed species. Although we were pleased to learn this, we retain the concerns described in the text for two reasons: First, the draft Plan does not state that new infrastructure or operational changes needed to ensure the survival of species covered by the BDCP are exempt from the “no surprises” guarantee if they are located outside the plan area. Rather, the draft links CVP and SWP facilities and water supply operations upstream of the plan area to the conservation measures that may be required to protect covered species and their downstream habitat (BDCP 1-20). Without an explicit limitation on the “no surprises” guarantee to new, “unforeseen” conservation measures undertaken within the plan area, we believe that there is an unacceptable risk that the Authorized Entities could raise a plausible claim that the “no surprises” policy exempts them from liability for new facilities and operational changes upstream of the plan area that are needed to protect covered species within the plan area.

Second, the draft Plan expressly extends the “no surprises” assurance for future section 7 consultations over new facilities and other changes in CVP operations that are outside the plan area and not part of the BDCP covered activities. The draft Plan stipulates that “USFWS and NMFS will further ensure that the terms of any BiOp issued in connection with projects that are independent of the covered activities and associated federal actions do not create or result in any additional obligation, cost, or expense to the Authorized Entities” (BDCP 6-44).

If the parties to the BDCP negotiations do not intend for the “no surprises” guarantee to cover new construction and project operational changes outside the plan area, then they should revise the draft Plan to say so explicitly and clearly. We also recommend that the sentence quoted above, which exempts the Authorized Entities from all costs associated with section 7 consultations to project facilities and operations other than BDCP covered activities be deleted.

ten years based on *current* information on the appropriateness of the biological objectives, the success or failure of the conservation measures, species survival and recovery, overall ecosystem health, climate change, invasive species, discharges, the effects of authorized project operations, other stressors, and regulatory compliance.

We have chosen ten years for the recommended length of renewable “no surprises” assurances because a ten-year period is likely to include a variety of different types of water years and thus will be sufficiently lengthy to enable BDCP managers and regulators to evaluate how well the biological objectives and conservation measures perform across a spectrum of hydrologic conditions. At the same time, ten years is short enough to minimize the risk that the terms and conditions of the BDCP become antiquated and ineffective in light of the inevitable and unpredictable changes to the ecosystem. Indeed, a series of renewable ten-year “no surprises” guarantees could create a constructive incentive for the parties to the BDCP to monitor progress and achievement of the biological objectives and conservation measures and to make adaptive management changes as required to sustain and recover the covered species and their habitat.<sup>16</sup>

#### Revocation of Incidental Take Permits and the BDCP

Many of our concerns about the rigidities of the draft Plan and the scope and length of the regulatory assurances would be lessened if there were an effective means of revoking the incidental take permits and thus rescinding the BDCP. But there is not.

As described in the draft Plan, the “Permit Revocation Rule,” adopted in 2004, allows the federal fish and wildlife agencies “to nullify regulatory assurances granted under the No Surprises rule and revoke the Section 10 permit only in specified instances, including where continuation of a permitted activity would jeopardize the continued existence of a species covered by an HCP and the impact of the permitted activity on the species has not been remedied in a timely manner” (BDCP 6-48: quoting 69 Fed. Reg. 7172 (Dec. 10, 2004)). The draft Plan states,

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<sup>16</sup> There is nothing in federal or state law that requires that the term of a “no surprises” guarantee be coextensive with the term of the HCP/NCCP. Indeed, the California Natural Communities Conservation Planning Act requires that the duration of all regulatory assurances be based on a careful assessment of the limits of scientific understanding of the covered species and their habitat. California Fish & Game Code § 2820(f) states that the CDFW’s “determination of the level of assurances and the time limits specified in the implementation agreement for assurances may be based on localized conditions and shall consider”:

- (A) The level of knowledge of the status of the covered species and natural communities.
  - (B) The adequacy of analysis of the impact of take on covered species.
  - (C) The use of the best available science to make assessments about the impacts of take, the reliability of mitigation strategies, and the appropriateness of monitoring techniques.
  - (D) The appropriateness of the size and duration of the plan with respect to quality and amount of data.
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- (H) The size and duration of the plan.

however, that the “USFWS or NMFS will begin the revocation process only if it is determined that the continuation of a covered activity will appreciably reduce the likelihood of survival and recovery of one or more covered species and that no remedy [other than revocation] can be found and implemented” (BDCP 6-49).

Similarly, under the California Natural Communities Conservation Planning Act, the Department of Fish and Wildlife may revoke the state incidental take permit “if necessary to avoid jeopardizing the continued existence of a listed species” (BDCP 6-49: citing California Fish & Game Code § 2820(c)).<sup>17</sup> The federal and state fish and wildlife agencies also may revoke the permits if the Authorized Entities fail to fulfill their obligations under the BDCP, but only following the dispute resolution process set forth in the Implementing Agreement and “providing the Implementation Office and Authorized Entities with a reasonable opportunity to take appropriate responsive action” (BDCP 6-49).

Before the fish and wildlife agencies may revoke the incidental permits, they must follow a variety of procedures and substantive standards. These include determining, in concert with the Implementation Office, “whether changes can be made to the conservation strategy to remedy the situation” and whether “there are additional voluntary implementation actions that the Authorized Entities could undertake to remedy the situation.”

More importantly, the draft Plan also requires the federal fish and wildlife agencies to determine whether they or some other agencies can take actions to ensure the survival of the listed species, rather than imposing such burdens on the parties to the Authorized Entities:

The USFWS or NMFS will determine whether the fish and wildlife agencies or other state and federal agencies can undertake actions that will remedy the situation. The determination must be based on a thorough review of best available practices considering species population status and the effects of multiple federal and nonfederal actions. *It is recognized that the fish and wildlife agencies have available a wide array of authorities and resources that can be used to provide additional protection for the species, as do other state and federal agencies* (BDCP 6-48 & 6-50: emphasis added).

The draft Plan thus makes it difficult for the fish and wildlife agencies to revoke the incidental take permits if the biological objectives, conservation measures, and adaptive management changes do not achieve their primary goal of protecting and recovering the listed species. Procedural and substantive rigor is not in and of itself

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<sup>17</sup> Section 2820(c) actually addresses a more limited violation of the terms of an NCCP, providing for suspension or revocation if a plan participant fails to “maintain the proportionality between take and conservation measures specified in the implementation agreement and does not either cure the default within 45 days or enter into an agreement with the department within 45 days to expeditiously cure the default.” California Fish & Game Code § 2820(c). The more general revocation standard is set forth in section 2820(b)(3)(A)-(D) of the Act.

reason to doubt this last line of defense against extinction. But two additional facts lead us to the conclusion that permit revocation is not likely to be a credible means of ensuring the survival of the species if the BDCP fails its most essential task.

First, neither the federal fish and wildlife agencies nor the California Department of Fish and Wildlife have ever revoked an incidental take permit. Indeed, there is only one case in which a federal incidental take permit has been suspended, and that was for the permittee's violation of the terms and conditions of the habitat conservation plan, rather than because of changes in ecological conditions or the permittee's failure to agree to amendments to the biological objectives and conservation measures<sup>18</sup>. Revocation of the incidental take permits covered by the BDCP therefore would be an unprecedented event.

Second, a decision to revoke the incidental take permits would not be simply a scientific determination that the BDCP—as written today and implemented at some future date during its 50-year existence—is not adequate to ensure the conservation and recovery of the listed species. Although the BDCP assigns the authority to revoke the state incidental take permit to the Director of the California Department of Fish and Wildlife (BDCP 6-50), it stipulates that “[a]ny decision to revoke one or both federal permits must be in writing and must be signed by the Secretary of the Interior or the Secretary of Commerce, as the case may warrant” (BDCP 6-49).<sup>19</sup> In our judgment, this poses an undue risk that the revocation decision would be based on science *and* political considerations. Indeed, there would seem to be no other purpose for elevating the revocation authority from the fish and wildlife agencies to the two Cabinet-level Secretaries.

For these reasons, we do not believe that the state and federal authority to revoke the incidental take permits compensates for the deficiencies in the draft BDCP described above.

## Conclusion

We conclude that governance structure set forth in the draft BDCP is neither “transparent [nor] resilient to political and special interest influence.” The draft undermines the authority of the federal and state fish and wildlife agencies both by assigning them program responsibilities and by granting the Authorized Entities veto power over changes to the biological objectives, conservation measures, and adaptive management strategies that may be needed to ensure that the Plan achieves its stated goals. To address this deficiency, we recommend that the BDCP be revised to remove the Permit Oversight Group from program decisionmaking and to clarify the regulatory authority of the fish and wildlife agencies both within the BDCP and in their independent roles as principal regulators under the federal and

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<sup>18</sup> See U.S. Fish and Wildlife Service Letter to Victor Gonzales, President of WindMar Renewable Energy, Feb. 2, 2012 (decision of partial suspension of incidental take permit).

<sup>19</sup> This would change the process for permit revocation set forth in the federal ESA rules, which vest revocation authority in the Director of the U.S. Fish and Wildlife Service. 50 C.F.R. § 17.22(b)(7).

state Endangered Species Acts and the California Natural Community Conservation Planning Act.

We also believe that the regulatory assurances contained in the draft Plan jeopardize the ability of the fish and wildlife agencies to respond to changed conditions that may require future revisions to the biological objectives and conservation measures of the BDCP. The “no surprises” guarantees—by which the state and federal governments would assume the financial costs of new infrastructure and regulatory changes in CVP/SWP operations needed to address the effects changed circumstances not provided for in the BDCP—are especially troubling. To address this problem, we recommend that the proposed 50-year “no surprises” guarantees be converted into a series of renewable guarantees—the first to cover construction of the projects authorized by the BDCP and the successors to cover project operations for sequential ten-year periods.

Finally, although the fish and wildlife agencies retain the authority to revoke the incidental take permits—and thus to rescind the BDCP—if necessary to avoid jeopardizing any listed species, the draft Plan makes it difficult to do so by requiring the federal agencies to take action against other stressors on the species before determine that it is necessary to revoking the permits. The draft also removes the revocation decision from the federal agencies themselves and places it with the Cabinet-level Secretaries in whose Department the fish and wildlife agencies are located. We believe that these heightened substantive and procedural requirements reduce the likelihood that permit revocation would serve as an effective backstop in the event that the BDCP fails to achieve its overriding purposes of ensuring the survival and contributing to the recovery of the species. Indeed, these limitations on permit revocation strengthen our conclusions that the governance problems described throughout this chapter be repaired so that the fish and wildlife agencies retain the authority to insist on changes to the biological objectives and conservation measures of the BDCP as required to achieve species conservation and recovery.

# CHAPTER 9: SCIENCE AND ADAPTIVE MANAGEMENT IN BDCP

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## Introduction

From the outset BDCP makes it clear that it will be science-based and adhere to the principles of adaptive management. The plan recognizes that all 22 conservation measures that are designed to meet the plan goals and objectives face high levels of uncertainty and that measures used to implement them will inevitably require adjustment and refinement. Indeed, given the unprecedented complexity of BDCP, it will most certainly fail without substantial investments in a program of science and monitoring linked to a robust adaptive management program that allows it to change course.

At the time of this review, the science and adaptive management component of BDCP was, by the project proponents' own admission, a work in progress with many of the key elements yet to be determined. We briefly review here the available information with the understanding that these elements are likely to change, possibly considerably, before the public draft is released.

## Adaptive Management Program

The plan documents recognize that BDCP is compelled to adhere to an array of standards for adaptive management of the program (summarized in Chapter 3 of BDCP). This includes requirements of USFWS and NMFS five-point policy on adaptive management (65 Fed. Reg. 35241-35257), NCCPA requirements for monitoring and adaptive management programs (Fish & Game Code § 2820(a)(7) & (8), and the requirements of the Delta Reform Act for science-based adaptive management of all ecosystem and water management programs in the Delta (Water Code § 85308(f)).

The BDCP documents describe the well-known adaptive management cycle involving: *plan*, where management problems are recognized leading up to a plan of action to test management actions, *do*, where plans are implemented, accompanied by monitoring, and *evaluate*, where monitoring information is evaluated to measure effectiveness, and information learned initiates anew the planning portion of the cycle. As described in BDCP, the conceptual approach to adaptive management is closely aligned to the approach codified in the Delta Plan and the draft Delta Science Plan.

## Governance and Implementation of Adaptive Management

BDCP envisions that its adaptive management program will be organized and run by its Implementation Office. The office will be run by a Program Manager who will be hired by the Authorized Entity Group (AEG). The AEG will be made up of DWR, Reclamation, and the state and federal water contractors. The Program Manager

selects and supervises a Science Manager, who takes on the responsibilities of running the adaptive management programs and coordinating, in unspecified ways, all science and monitoring activities.

The Science Manager will chair and manage an Adaptive Management Team (AMT) made up of a broad array of regulators, regulated entities, and science programs. These include representatives appointed by members of the AEG, the Permit Oversight Group (POG: CDFW, USFWS, NMFS), the Interagency Ecological Program (IEP), Delta Science Program (DSP), and NOAA Southwest Fisheries Science Center. This group will receive input from a Technical Facilitation Subgroup, part of a Stakeholder Council made up of multiple of stakeholder groups, regulated entities, and regulating entities.

The AMT, led by the Science Manager, will have the responsibility for designing, administering and evaluating the BDCP adaptive management program, including the development of performance measures, monitoring and research plans, synthesis of data, solicitation of independent review, and developing proposals to modify biological goals and objectives as well as conservations measures.

The AMT is to operate by consensus only, meaning all members must agree to all actions. Where consensus cannot be reached the matter is elevated to the AEG and POG for resolution. As a matter of course, all changes in conservation measures and biological goals and objectives must be approved by the POG and AEG. The entity responsible for decisionmaking (for example, NMFS regarding changes in biological goals and objectives for salmon) will decide the issue. However, as discussed in Chapter 8, *any member of the AEG or POG may request review of the decision at the highest level of the relevant federal department or state, up to the appropriate department secretary or the Governor of California* (BDCP Chapter 7, Section 7.1.7).

An essential goal of the adaptive management program—seeking consensus for all decisions from all regulated and regulating entities as well as key providers of science—is understandable and, if it could be achieved, laudable. However, for several reasons this is unlikely to be successful.

First, as discussed in Chapter 8, this structure confuses the roles of regulators and regulated entities. It gives exceptional decision power to regulated entities, particularly those with a great financial stake in outcomes (state and federal water contractors). We are skeptical that difficult, perhaps costly decisions could be achieved in an efficient and effective manner since *any* member of the AEG or POG can, in effect, elevate any decision, no matter how trivial, to the highest levels of government. This is likely to have a chilling effect on decisionmaking, making all parties cautious and risk-averse. These traits—caution and fear of taking risks—are antithetical to the principles of adaptive management by which all management decisions are viewed as experimental and inherently risky. The most likely outcome from this approach to governance of adaptive management is that preliminary decisions made during the initial phases of the plan are, through sheer inertia, likely to remain permanent, rendering the concept of adaptive management moot.

Second, the AMT is made up of a mix of regulators, regulated entities, and scientific providers such as IEP and DSP. This places the science providers in the position of being decisionmakers, creating clear conflicts of interest. Most importantly, as discussed below, this eliminates one of the most important aspects of science in support of adaptive management: scientific independence.

### Adaptive Capacity

The AMT, with approval from the POG, AEG or higher federal and state authorities, will oversee implementation of the adaptive management program, presumably through the Science Manager. A central issue likely to arise when finalizing BDCP is the adaptive flexibility available. All such programs have a natural tension between wanting to provide assurances—such as how much water will be exported from the Delta—and needing flexibility in amount and timing of exports to test and implement adaptive management programs. The current BDCP documents offer little to no guidance on adaptive capacity. This is likely to play a major role in how adjustments are made in conservation measures and, more importantly, how real-time operations (an element of adaptive management) are implemented. BDCP has sought to defer this decision, both within the document and to its Decision Tree process (discussed below).

### Science Program

Science should underpin the discussions and information needed to make and implement adaptive management decisions. The extensive literature on adaptive management cites a strong, well-funded, and well-organized science and monitoring program as essential for adaptive management. The BDCP documents do not provide extensive information about science to support adaptive management, other than a solid commitment to build and support a strong science program and, in the EIR/EIS, a significant funding commitment. As currently described, the science program would be run by the Science Manager under the direction of the Program Manager and the AEG. The role of the science manager would be to fund an array of activities, guide synthesis and analysis, and coordinate with the numerous public and private institutions working on the Delta. Beyond this, there are few specifics.

BDCP's current efforts on science have come in for extensive criticism from several entities, including the National Research Council (2012), the Delta Independent Science Board (Memo to Delta Stewardship Council dated May 20, 2013) and the Public Policy Institute of California (Hanak et al., 2013, Gray et al., 2013). To be fair, the project proponents recognize that the BDCP science program is a work in progress and likely to change before the public draft of the plan is released. However, several significant issues will need to be resolved:

- *Integration:* the National Research Council in its review of Delta science was highly critical of the lack of integration of scientific efforts in the Delta. The NRC and others have pointed out that coordination is less effective than integration. BDCP is a once-in-a-generation opportunity to reorganize science in the Delta to make it more integrated and more effective for



addressing the major issues of the day. As structured, BDCP builds a new stand-alone science program that seeks to coordinate with other programs, such as IEP and DSP, rather than to integrate them. This is unlikely to prove successful.

- *Independence*: as noted above, the AMT blurs the distinction among decision-makers, regulated entities, and the providers of science and technical advice. In addition, the BDCP science program is, in effect, run by the regulated entities and lacks independence. This creates the potential for bias in the selection of what science gets funded and what is ultimately made available to the public. Given that most major disputes in the Delta come down to differences of opinion in court about the best available science, demonstrating scientific integrity and transparency should be the highest priority.
- *Oversight*: as currently structured, there is no independent oversight of the BDCP science program. There is a commitment to promoting peer-review of scientific work products and plans. In addition, there is mention of coordinating with the existing DSP and the Delta Independent Science Board. But oversight, which is essential for creating public assurances that the best available science is being utilized in decision-making, is currently absent from the plan.
- *Funding*: science is expensive, and for a program this large and complex, it is likely to be *very* expensive. There are no discussions regarding budget in the BDCP plan documents. However, in the administrative draft EIR/EIS there are substantial commitments to funding a science program. There are categories of funding (monitoring, research, etc.), but little information as to how it would be distributed, organized and administered. Still, this level of commitment is significant and necessary.

To be effective, during revision of the plan documents, BDCP will have to address the considerable weaknesses in science governance, integration with other programs, independence and transparency, oversight and funding. Notably, there is a parallel process underway, led by the DSC, to develop a comprehensive plan for science in the Delta. This “One Delta, One Science” effort is essential for the success of BDCP. It seems to us that BDCP’s science effort should be fully integrated with the Delta Science Plan, if not led by the DSP. However, to date, BDCP has had limited involvement with this planning process.

## Decision Tree

Earlier chapters of this review note that most controversial decisions, or decisions with high scientific uncertainty, are proposed to be resolved through adaptive management (i.e., *deferred*). One of the most important decisions will involve initial operations of the dual export facilities approximately ten years after issuance of the HCP/NCCP permit. The operations are to be based on the best available science on

how to meet the co-equal goals of ecosystem benefit and water supply, with the goal of meeting the HCP/NCCP conservation standards.

A fundamental tension exists between two competing hypotheses regarding BDCP. The first, controlling hypothesis is that better management of existing export volumes with the dual facility, coupled with significant investments in floodplain, channel margin, and tidal marsh habitat to improve food webs, will improve conditions for covered species sufficiently to meet the HCP/NCCP standards. The second, embedded within the agency red flag comments and “progress reports”, is that these steps are insufficient and that lower exports (higher outflow) will be needed to meet these standards. This issue is a paramount concern since it directly affects the economic viability of water supplied from the project.

As part of CM#1, BDCP will use a decision tree to address initial starting operations. As a starting point, BDCP embodies the two competing hypotheses in the LOS and HOS operating criteria, viewing them as brackets on the potential range of operations. The goal of the decision tree is to conduct a series of detailed studies and experiments to develop specific flow criteria, particularly for spring outflow (longfin smelt) and Fall X2 (delta smelt), in the decade before operation of the export facility begins.

The decision tree is the first, and probably most important, element of the BDCP adaptive management program. Much of the success of the adaptive management program will be tied to this element, since the original adaptive management and science infrastructure will presumably be built around addressing the competing hypotheses.

The decision tree approach to addressing starting operations is, in our view, laudable and appropriate. It makes no sense to wait until all uncertainties over this issue are resolved (a course of action proposed by diverse stakeholder groups). Experience says this issue will never be resolved to everyone’s satisfaction and will require constant (and contentious) adaptive management. This is a necessary and appropriate step. Regrettably, there is little information given in the BDCP documents about how the decision tree would be implemented, including who would fund it, how it would be structured, how decisions would be made, what science experiments would be conducted, etc. The lack of detail about the decision tree in the BDCP documents raises several key concerns:

- It takes time to develop and implement a large, complex scientific undertaking of the kind envisioned by the decision tree approach. The POD crisis in the mid-2000’s and the mobilization of the scientific community to address it is an example of a successful approach. But that still took considerable time and many issues addressed by the POD effort remain unresolved.
- To inform the potential placement and design of habitat restoration efforts to support food webs, new approaches to numerical modeling will be

needed that better represent how these habitats function. Finding and funding the technical teams for this kind of work will take time and resources. A particular concern is whether contracting will be run through existing state and federal agencies who are notoriously slow at developing contracts.

- In addition, field experiments will be needed to inform and calibrate these models. This involves identifying locations to conduct experiments, modeling and designing actions, acquiring land or easements, implementing pre-project monitoring programs, implementing actions, monitoring responses, and incorporating results into system models. All of these actions take time and resources, but as is well-known by anyone working on ecosystem restoration in the Delta, the rate-limiting step is inevitably the length of time it takes to secure permits (see recent review in Hanak et al., 2013).
- Because any decision made regarding flow and habitat will have multiple, competing constituencies and regulatory interests, an extensive and often contentious public engagement effort will be needed. The history of the Delta suggests that all such significant decisions are litigated, further slowing this process.

These four concerns, as well as others, make us skeptical that the decision tree is likely to achieve the goal of resolving operations issues within a 10 to 15 year time period. We cannot say with certainty that it will not be successful. A committed, well-funded, well-managed effort on the part of all parties may yield useful conclusions. However, given that this is the less likely outcome, it seems imperative that BDCP negotiate export operations criteria that, in the absence of a successful decision tree process, will be implemented at the start of the project.

Our work in previous chapters has cast doubt on the viability of the controlling hypothesis that underpins BDCP. To this end, we think it prudent to, at minimum, adopt the HOS operating criteria as the starting condition if the decision tree fails to identify operating procedures. In addition, if BDCP is truly committed to adaptive management and the use of best available science, it is not appropriate to set artificial boundaries—HOS and LOS—on the decision tree process. It is our view that the decision tree research effort should seek to define best operating procedures rather than being forced to operate within the HOS and LOS range. There is a reasonable chance that the decision tree process may ultimately determine that the HOS flow criteria are not protective enough.

## Conclusion

The draft documentation provided by BDCP makes a strong commitment to the principles of adaptive management supported by a robust science program. Given the complexity of BDCP and the great scientific uncertainties underpinning many of the central elements of BDCP, this is absolutely necessary for success. As currently described, the BDCP adaptive management program either lacks sufficient

information to be assessed or is unlikely to achieve its overall goals and objectives. This stems from two basic problems:

- The adaptive management program has a confused and conflicting governance structure that, in our view, is likely to inhibit adaptation rather than promote it.
- There is insufficient information, beyond funding levels, to judge how the science program might function and how the knowledge it generates would be converted to action. The current information in the documents indicates that the program lacks integration with existing programs, scientific independence and transparency, and sufficient independent oversight.

We recommend that BDCP seek substantive engagement (beyond “coordination”) with the ongoing efforts by the DSC and the Delta Stewardship Council to develop a Delta Science Plan. The goal should be to integrate BDCP science and adaptive management into the broader science infrastructure of the Delta and not to construct a new, stand-alone science organization. Additionally, BDCP needs to revisit how adaptive management decisions are made, reallocating planning and decisionmaking authorities.

The decision tree process that seeks to resolve issues over initial operating criteria and habitat restoration investments is both appropriate and necessary. Unfortunately only limited information is available about this program so we cannot evaluate it. We are confident, however, that it is unlikely to resolve the major issues over the trade-offs between flow and ecosystem investments. For this reason, in the absence of resolution of decision tree process starting operations should be similar to HOS criteria.

# Chapter 10: Summary and Recommendations

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## Introduction

We present a narrow review of aspects of BDCP that relate to conservation of federally listed fishes. We identify both strengths and weaknesses of BDCP's conservation measures in its effort to balance water supply reliability with ecosystem goals and objectives. Due to time and resource limits this review is incomplete. We did not examine all issues associated with aquatic ecosystems. For example, we did not evaluate habitat restoration on the San Joaquin River. Nor did we evaluate conservation issues for all covered fishes, giving limited attention to Sacramento splittail, San Joaquin steelhead, sturgeon and lamprey. Instead, we focused on the conservation measures that affect winter-run and spring-run Chinook salmon, delta smelt, and longfin smelt, because these measures are the most controversial and have greatest impacts on water supply operations. We also focused on a limited subset of the alternatives listed in BDCP documentation: the Early Long Term conditions under a No-Action Alternative (NAA), Low Outflow Scenario (LOS) and High Outflow Scenario (HOS)<sup>1</sup>.

We summarize our findings on the six guiding questions identified in Chapter 1, plus several recommendations sought by the NGOs after we began our work. These are intended to help inform The Nature Conservancy and American Rivers in their engagement efforts with BDCP. Where appropriate, we describe alternative approaches that might be taken for BDCP to more effectively meet its goals. On many issues we have no recommendations.

## Question 1: Operations

*Do operations of the dual facilities meet the broader goal of taking advantage of wet and above average years for exports while reducing pressure on below average, dry and critically dry years? What substantive changes in operations (and responses, see below) are there both seasonally and interannually?*

We analyzed the CALSIM data on export operations under NAA , HOS and LOS for ELT conditions. We note that the modeling of flows under BDCP has three compounding uncertainties: uncertainty over system understanding and future conditions, model uncertainties associated with CALSIM, DSM2 and UnTrim, and behavioral/regulatory uncertainty, where the model cannot fully capture operational flexibility. For this reason, model outputs should be viewed as

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<sup>1</sup> NAA ELT is the no-project alternative using the 2008, 2009 BiOps with high spring outflow, 2025 climate and sea level conditions. LOS is with-project alternative with low fall and spring outflow, 2025 climate and sea level conditions. HOS is with-project alternative with high spring and fall outflow standards, 2025 climate and sea level conditions.

approximations useful for comparing different scenarios rather than as a predictor of future conditions. This issue influences all of our conclusions.

Based on our review we conclude:

- The array of existing and projected flow regulations significantly constrains operations in BDCP. The assumed operational flexibility associated with new North Delta facility is limited.
- HOS and LOS operations promote greater export during wet periods through increased use of North Delta diversions during the winter and spring. During dry and critical years, there is not much difference in *average* exports compared to NAA. For this reason, BDCP generally fails to meet the broader objective of reducing pressure on the Delta during dry periods.
- In some dry periods regulatory controls on OMR flows and North Delta diversions lead to significant increases in outflow and OMR flows over NAA. These unexpected results are the consequence of stricter flow requirements for HOS and LOS and operations being tied to previous water-year type in the fall and early winter. We are unsure if the project would actually be operated this way under these conditions.
- We evaluated how NAA, HOS and LOS performed during extended droughts. Of the three scenarios, HOS appears to be most protective of both supply and ecosystems by reducing the frequency and duration of dead pool conditions on Sacramento Valley reservoirs and assuring higher spring and fall outflows.

**Recommendations:** caution must be used in interpreting CALSIM model results for both export and environmental performance of BDCP due to compounding uncertainties. However, modeling results suggest that overall flow conditions are improved over NAA.

## **Question 2: Impacts of North Delta Facility**

*Based on operations criteria, does the Plan properly identify ecological impacts likely to occur adjacent to and in the bypass reach downstream of the new North Delta diversion facilities? If there will be direct and indirect harm to listed species by the facilities, does the Plan prescribe sufficient mitigation measures?*

We reviewed the Conservation Measures and Effects Analysis of BDCP, including supporting appendices to evaluate conditions upstream of the North Delta facility, as well as near- and far-field effects of the facility itself. Our focus was on winter- and spring-run Chinook salmon, rather than all covered species. Based on this review we conclude:

- The BDCP consultants have appropriately identified the range of impacts on listed salmon likely to be associated with the operations of the North Delta facility. These include near-field effects such as impingement on intake

screens and high predation losses at the facility, to far-field effects such as reduced survivorship of juvenile salmon due to higher transit times and redirection into the interior Delta. Using multiple modeling approaches, they have created reasonable estimates of losses due to operation of the facility.

- Mitigation for take associated with the new facility includes restricting diversion flows during initial pulse flows in the river, predator control, non-physical barriers, real-time operations to protect outmigrants, and modification of the Fremont Weir to divert fish onto the Yolo Bypass. With the possible exception of benefits from Fremont Weir modifications the uncertainties over mitigation actions are all high.
- We see high potential value in the Yolo Bypass for mitigating the effects of North Delta diversions on juvenile salmon, particularly in drier conditions. Therefore, existing adaptive management programs on the Bypass must be supported, with accelerated pilot studies, monitoring and ecological modeling, to ensure success of any modifications of the Bypass.
- Mitigation is hampered by the lack of a viable adaptive management plan or real-time management plan in the current BDCP for the North Delta facility. Still, even with these uncertainties, if managed well, fully implemented and functioning as described in the plan, the actions appear to mitigate for losses associated with the North Delta facilities.
- These mitigation efforts alone are unlikely to lead to significant increases in salmon populations, and extinction risk remains high for winter- and spring-run Chinook salmon, particularly during extended drought and warm periods when reservoirs are low. However, reservoir management is not within the scope of BDCP.

**Recommendations:** given the uncertainties over mitigation for the North Delta facility, we recommend that all mitigation actions be evaluated and completed prior to initiating operations the North Delta facility. Of highest priority is to bolster and complete adaptive management activities in progress on the Yolo Bypass. Additionally, we recommend establishing an adaptive management and real-time management program with the capacity to conduct significant experiments in flow management, predator control, and non-physical barrier implementation *prior* to initiating facility operation. These should be conditions of the HCP/NCCP take permit.

### **Question 3: In-Delta Conditions**

*Are changes in operations and points of diversion prescribed in the Plan sufficient to significantly improve in-Delta conditions for covered species? The focus is on listed species, including delta and longfin smelt, steelhead, winter and spring run Chinook, and green sturgeon.*

We focused our analysis on in-Delta conditions that may affect delta smelt and longfin smelt. We reviewed the effects analysis and supporting documentation and conducted our own modeling based on CALSIM output. Based on this work we conclude:

- The CALSIM output we used showed conditions that appeared anomalous based on our understanding of how the system would actually be operated. Although we have been assured that these conditions were logical consequences of model design and operation to meet flow requirements, we remain unconvinced that they reflect actual future operations under the hydrologic conditions simulated. We therefore caution that **the conclusions below are contingent upon the actual operations of the system resembling those in the model output**. They are also contingent on the biological models accurately reflecting responses of the species to flow conditions.
- Roughly half of the export from the Delta will go through the North Delta facility. In addition, OMR flow regulations are more restrictive (protective) under HOS and LOS scenarios than NAA. Thus the incidence of positive OMR flows rose from 11% under NAA to 16% under HOS and LOS conditions. HOS and LOS are consistently more protective of smelt than NAA under these modeling assumptions.
- OMR flow regulation under HOS and LOS for October through January is governed by previous water year type. This leads to anomalously high (positive) OMR flows and corresponding outflow during some dry periods, creating apparent benefits for delta smelt. We are uncertain if this would manifest in real operations.
- Entrainment results in fractional population losses of delta smelt that can be calculated from modeled flow conditions. Based on these calculations, we estimate that HOS and LOS reduced fractional population losses by half compared to NAA. If actual operations were similar to the model results, they would lead to significant decreases in entrainment.
- Estimates of relative differences in long-term survival percentages (not predictions) showed a 19-fold increase for HOS and 11-fold increase for LOS over NAA, albeit with large uncertainty. A difference of this magnitude over the last 20 years would have reversed the decline of delta smelt in the 2000s.
- Increases in spring outflow are projected by the models to produce only a very small increase in longfin smelt abundance index under HOS compared to NAA, and a comparable decrease under LOS.
- Increases in fall outflow under HOS are projected to produce a small increase in recruitment by the following summer, and under LOS a modest



decrease, but because of high variability in the data used to make these predictions, these values are very uncertain.

**Recommendations:** we remain uncertain about significant reduction in fractional population losses of delta smelt under the new HOS and LOS operating criteria. We recommend investment in resolving these uncertainties before operations are finalized. If these relationships are supported, then operational rules need to be refined to protect the benefits of these improvements over a broad range of conditions.

#### **Question 4: Benefits of Habitat Restoration**

*Are covered pelagic fish like longfin smelt and delta smelt likely to benefit from restoration of floodplain and tidal marsh habitat at the scale proposed by the Plan? Given the current state of knowledge, and assuming that all Plan commitments are met, are these efforts likely to result in relaxed X2 and spring outflow standards?*

A fundamental hypothesis embedded in the BDCP goals and objectives is that improvements in physical habitat, particularly floodplain and tidal marsh, will improve conditions for covered fishes. We focused our assessment on the relationship between habitat restoration and longfin and delta smelt. Based on this analysis we conclude:

- BDCP correctly identifies food limitation as a significant stressor on delta and longfin smelt, particularly in spring through fall. Increasing food availability in smelt rearing areas would likely lead to increases in population.
- Tidal marshes can be sources or sinks for phytoplankton and zooplankton. Most appear to be sinks, particularly for zooplankton. There is high on-site consumption of productivity within marshes.
- Even under the most highly favorable assumptions, restored marshes would have at best a minor contribution to plankton production in smelt rearing areas.
- Smelt can benefit by having direct access to enhanced productivity. This is likely the case for the subpopulation of smelt that reside in Cache Slough.
- BDCP is too optimistic about benefits of tidal marsh and floodplain restoration for smelt, particularly the extent of food production. These optimistic views are indirectly guiding the LOS outflow criteria. There is no clear connection, however, between the two and investments in marsh restoration are unlikely to lead to reduced demand for outflows.

**Recommendations:** it is possible but unlikely that marsh restoration will materially improve conditions for smelt, although other ecosystem and species benefits of marsh restoration are much more likely. Only moderate- to large-scale experimental restoration projects are likely to resolve this uncertainty and to help

in designing future efforts. BDCP should design and describe a specific program to resolve this issue. Until this uncertainty is resolved flow management will remain the principal tool to mitigate project impacts.

### **Question 5: Governance**

*Does the Plan provide achievable, clear and measurable goals and objectives, as well as governance that is transparent and resilient to political and special interest influence?*

We analyzed the proposed governance structure of BDCP, including the responsibilities and authorities of new entities such as the Authorized Entity Group (AEG), the Permit Oversight Group (POG), the Adaptive Management Team (AMT), Implementation Office, Program Manager and Program Scientist. Based on this review we conclude the following:

- The governance plan, as structured, blurs the responsibilities between implementation and regulation. It grants AEG final decisionmaking power over actions that should be solely within the authority of the permitting agencies. It also involves the permitting agencies too heavily in implementation of the project.
- As written, the plan grants the AEG veto authority over proposed changes in the program, including any changes in biological goals and objectives or conservation measures.
- The AEG has the power to veto any minor modification, revision or amendment to the Plan that may be necessary to manage listed species.
- The regulatory assurances set forth in the draft Plan severely constrain the fish agencies' ability to respond to inadequacies in biological objectives.
- Given the high uncertainties inherent in BDCP, it is very likely that unforeseen circumstances will require significant changes in biological goals and objectives and conservation actions. Under the 50-year "no surprises" guarantee, the fish agencies assume financial responsibility for many significant changes. This liability could deter needed regulatory changes to BDCP and CVP/SWP operations.
- The procedural hurdles necessary to revoke the incidental take permit of BDCP are so great that revocation is unlikely to occur over the 50-year life of the permit. Indeed, permit revocation and termination of the BDCP would be unprecedented under both state and federal law.

Recommendations: The POG should be granted exclusive regulatory authority to determine whether budgets and workplans are consistent with the permit and to approve revisions to the biological goals and objectives or amendments to the plan. It should have the authority to initiate changes needed to insure protection of the covered species. The POG's functions should be limited to regulatory oversight

rather than direct involvement in implementation. There should be a “no surprises” guarantee for construction of the project. Upon completion of the project, there should be renewable “no surprises” guarantees every ten years. These renewals should be based on conditions at the time of renewal and appropriateness of biological goals and objectives. This approach creates an incentive for all parties to adapt to changes in conditions to sustain covered species, rather than simply fulfilling obligations on conservation measures.

### **Question 6: Science and Adaptive Management**

*Is there a robust science and adaptive management plan for BDCP? As described, is the proposed “decision tree” likely to resolve major issues regarding Fall X2 and Spring Outflow prior to initial operations?*

We reviewed the science and adaptive management plans in both the plan and EIS/EIR documents. Most issues with high uncertainty or controversy in the Plan are relegated to resolution through an adaptive management process. Based on the documentation, we conclude:

- Given the major uncertainties facing BDCP a robust, well-organized and nimble adaptive management plan will be necessary. The current plan adheres to and strongly promotes the principles of adaptive management and science.
- The requirement of unanimous consent for all decisions by the AMT, and veto power of any member of the AEG and POG is a barrier to adaptive management.
- There is a blurring of the responsibilities between regulators and those responsible for implementation of adaptive management that has the potential to create conflicts. There is a conflicting relationship between AMT decisionmaking and the scientific organizations providing support for decisionmaking.
- The plan recognizes the importance of adaptive capacity, meaning flexibility in operations and actions that allow for learning. Yet it does not describe this capacity in a meaningful way.
- There is almost no description of a science program. What is provided lacks evidence for integration with existing programs, transparency, independence from bias and influence, and structured oversight. These are all necessary for success.
- The decision tree process to establish initial operating conditions is appropriate. Done well, it can resolve many issues. However, it is unlikely to resolve the central issue over starting conditions in time to implement them.

- Although difficult decisions are relegated to a future adaptive management program, actually implementing such a program on such a scale will be very difficult and will require careful design. BDCP does not provide information sufficient to determine whether it will be effective. We remain skeptical that it will.

**Recommendations:** many of the recommendations for changes in governance made previously will go a long way toward improving the adaptive management program, including the separation of regulators from implementation efforts. However, the plan still needs a complete description of how its adaptive management program would function. The AMT, in whatever form it takes, should be advised by a science program, without scientists responsible for decisionmaking. The science program should be integrated with existing Delta science programs, rather than inventing a new parallel program. The best opportunity for integration is the current efforts to establish a Delta Science Plan through the Delta Science Program and Delta Stewardship Council. Given that the decision tree is unlikely to fully reduce uncertainties in time, coupled with our concerns over how the project would be operated rather than modeled, we recommend that default starting operating conditions be negotiated that approximates the HOS scenario, with a goal of identifying and operationalizing attributes of this scenario that are most beneficial to listed fishes.

# Appendices

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**Appendix A: Operational rules for the North Delta Facility**

**Appendix B: Impaired Flows into an Impaired Estuary**

**Appendix C: Effects of changes in flow conditions on  
entrainment losses of delta smelt**

**Appendix D: Evidence for food limitation of the smelt species**

**Appendix E: Model of plankton subsidy from marsh to estuary**

**Appendix F: Effects of Floodplain Inundation**

**Appendix G: Can incidental take permits be issued to water  
contractors?**

## Appendix A: Operational rules for the proposed North Delta Facility (from Draft Administrative Bay Delta Conservation Plan).

1 Table 3.4.1-1. Water Operations Flow Criteria

Parameter	Criteria														
Old and Middle River/San Joaquin inflow-export ratio	<ul style="list-style-type: none"> <li>October, November: Flows will not be more negative than an average of –2000 cfs during D-1641 San Joaquin River pulse periods, or –5,000 cfs during nonpulse periods.</li> <li>November, December: Flows will not be more negative than an average of –5,000 cfs and no more negative than an average of –2,000 cfs when the delta smelt action 1 triggers.</li> <li>January, February: Flows will not be more negative than an average of 0 cfs during wet years, –3,500 cfs during above-normal years, or –4,000 cfs during below-normal to critical years, except –5,000 in January of critical years.</li> <li>March: Flows will not be more negative than an average of 0 cfs during wet or above-normal years or –3,500 cfs during below-normal to critical years.</li> <li>April, May: Allowable flows depend on gaged flow measured at Vernalis. If Vernalis flow is below 5,000 cfs, OMR flows will not be more negative than –2,000 cfs. If Vernalis is 5,000 to 6,000 cfs, OMR flows will not be more negative than –1,000 cfs. If Vernalis exceeds 6,000 cfs, OMR flows will be at least 1,000 cfs. If Vernalis exceeds 10,000 cfs, OMR flows will be at least 2,000 cfs. If Vernalis exceeds 15,000 cfs, OMR flows will be at least 3,000 cfs. If Vernalis exceeds 30,000 cfs, OMR flows will be at least 6,000 cfs.</li> <li>June: Similar to April, but if Vernalis is less than 3,500 cfs, OMR flows will not be more negative than –3,500 cfs. If Vernalis exceeds 3,500 cfs, OMR flows will be at least 0 cfs. If Vernalis exceeds 10,000 cfs, OMR flows will be at least 1,000 cfs. If Vernalis exceeds 15,000 cfs, OMR flows will be at least 2,000 cfs.</li> <li>July, August, September: No constraints.</li> </ul>														
Head of Old River gate operations	<ul style="list-style-type: none"> <li>December, June 16 to September 30: Operable gate will be open.</li> <li>All other months: Operable gate will be partially or completely closed as needed to support OMR flow criterion and, via real-time operations, to minimize entrainment risk for outmigrant juvenile salmonids and/or manage San Joaquin River water quality.</li> </ul>														
Spring outflow	<ul style="list-style-type: none"> <li>March, April, May: As described in Section 3.4.1.4.4, <i>Decision Trees</i>, initial operations will be determined through the use of a decision tree. If at the initiation of dual conveyance, the best available science resulting from structured hypothesis testing developed through a collaborative science program indicates that spring outflow is needed to achieve the longfin smelt abundance objective the following water operations would be implemented within the decision tree. The evaluated starting operations would be to provide a March–May average outflow scaled to the 90% forecast for the water year, with scaling as summarized in the table below.</li> </ul> <p style="text-align: center;">March–May Average Outflow Criteria for “High Outflow” Outcome of Spring Outflow Decision Tree</p> <table> <tr> <th>Exceedance</th><th>Outflow criterion (cfs)</th></tr> <tr> <td>10%</td><td>&gt;44,500</td></tr> <tr> <td>20%</td><td>&gt;44,500</td></tr> <tr> <td>30%</td><td>&gt;35,000</td></tr> <tr> <td>40%</td><td>&gt;32,000</td></tr> <tr> <td>50%</td><td>&gt;23,000</td></tr> <tr> <td>60%</td><td>17,209</td></tr> </table>	Exceedance	Outflow criterion (cfs)	10%	>44,500	20%	>44,500	30%	>35,000	40%	>32,000	50%	>23,000	60%	17,209
Exceedance	Outflow criterion (cfs)														
10%	>44,500														
20%	>44,500														
30%	>35,000														
40%	>32,000														
50%	>23,000														
60%	17,209														

Table 3.4.1-1. Continued

Parameter	Criteria						
	<table> <tr> <td>70%</td><td>13,274</td></tr> <tr> <td>80%</td><td>11,382</td></tr> <tr> <td>90%</td><td>9,178</td></tr> </table> <ul style="list-style-type: none"> <li>Alternatively, if best available science resulting from structured hypothesis testing developed through a collaborative science program shows that Delta foodweb has improved, and evidence from the collaborative science program shows that longfin smelt abundance is not strictly tied to spring outflow, the alternative operation under the decision tree for spring outflow would be to follow flow constraints established under the Bay-Delta Water Quality Control Plan.</li> <li>February, June: Flow constraints established under the Bay-Delta Water Quality Control Plan will be followed.</li> <li>All other months: No constraints.</li> </ul>	70%	13,274	80%	11,382	90%	9,178
70%	13,274						
80%	11,382						
90%	9,178						
Fall outflow	<ul style="list-style-type: none"> <li>September, October, November: As described in Section 3.4.1.4.4, <i>Decision Trees</i>, initial operations will be determined through the use of a decision tree. Within that tree, the evaluated starting operations would be to implement the USFWS (2008) BiOp requirements, and the alternative operation would be to revert to the Bay-Delta Water Quality Control Plan requirements. The alternative operation would be allowed, if the research and monitoring conducted through the collaborative science program show that the position of the low-salinity zone does not need to be located in Suisun Bay and the lower Delta, as required in the BiOp, to achieve the BDCP objectives for Delta smelt habitat and abundance.</li> <li>All other months: No constraints.</li> </ul>						
Winter and summer outflow	<ul style="list-style-type: none"> <li>Flow constraints established under the Bay-Delta Water Quality Control Plan will be followed.</li> </ul>						
North Delta bypass flows	<ul style="list-style-type: none"> <li>October, November: Flows will exceed 7,000 cfs.</li> <li>July, August, September: Flows will exceed 5,000 cfs.</li> <li>December through June: Variable, as shown in <b>Error! Reference source not found.</b></li> </ul>						
Export to inflow ratio	<p>The export to inflow (E:I) ratio for CM1 operations is under development. Two options are under consideration, with the primary difference being the location at which inflow from the Sacramento River is measured.</p> <p>Option 1 (assumed in the low-outflow scenario [LOS] and the evaluated starting operations [ESO] scenario):</p> <ul style="list-style-type: none"> <li>Combined export rate is defined as the diversion rate of the Banks Pumping Plant and Jones Pumping Plant from the south Delta channels.</li> <li>Delta inflow is defined as the sum of the Sacramento River flow downstream of the proposed north Delta diversion intakes, Yolo Bypass flow, Mokelumne River flow, Cosumnes River flow, Calaveras River flow, San Joaquin River flow at Vernalis, and other miscellaneous in-Delta flows.</li> </ul> <p>Option 2 (assumed in the high-outflow scenario [HOS]):</p> <ul style="list-style-type: none"> <li>Combined export rate is defined as the sum of the diversion rate of the Banks Pumping Plant and Jones Pumping Plant from the south Delta channels and the diversion at the proposed north Delta intakes.</li> <li>Delta inflow is defined as the sum of the Sacramento River flow at Freeport (upstream of the proposed north Delta diversion intakes), Yolo Bypass flow, Mokelumne River flow, Cosumnes River flow, Calaveras River flow, San Joaquin River flow at Vernalis, and other miscellaneous in-Delta flows.</li> </ul>						
OMR = Old and Middle Rivers							

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Table 3.4.1-2. Flow Criteria for North Delta Diversion Bypass Flows from December through June

Constant Low-Level Pumping (December–June)								
Diversions up to 6% of river flow for flows greater than 5,000 cfs. No more than 300 cfs at any one intake.								
Initial Pulse Protection								
Low-level pumping maintained through the initial pulse period. For the purpose of monitoring, the initiation of the pulse is defined by the following criteria: (1) Wilkins Slough flow changing by more than 45% over a 5-day period and (2) flow greater than 12,000 cfs. Low-level pumping continues until (1) Wilkins Slough returns to prepulse flows (flow on first day of 5-day increase), (2) flows decrease for 5 consecutive days, or (3) flows are greater than 20,000 cfs for 10 consecutive days. After pulse period has ended, operations will return to the bypass flows identified below under Post-Pulse Operations. These parameters are for modeling purposes. Actual operations will be based on real-time monitoring of fish movement. If the first flush begins before December 1, May bypass criteria must be initiated following first flush and the second pulse period will have the same protective operation.								
Post-Pulse Operations								
After initial flush(es), Level I operations apply. After 15 total days of bypass flows above 20,000 cfs, Level II operations apply. After 30 total days of bypass flows above 20,000 cfs, Level III operations apply.								
Based on the objectives stated above, it is recommended to implement the following operating criteria:								
<ul style="list-style-type: none"> <li>Bypass flows sufficient to prevent upstream tidal transport at two points of control: Sacramento River upstream of Sutter Slough and Sacramento River downstream of Georgiana Slough. These points are used to prevent upstream transport toward the proposed intakes and to prevent upstream transport into Georgiana Slough.</li> </ul>								
Level I			Level II			Level III		
December–April			December–April			December–April		
Sacramento River Flow			Sacramento River Flow			Sacramento River Flow		
Is Over	Is Not Over	Bypass Flow	Is Over	Is Not Over	Bypass Flow	Is Over	Is Not Over	Bypass Flow
0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs
5,000 cfs	15,000 cfs	Flows remaining after constant low-level pumping	5,000 cfs	11,000 cfs	Flows remaining after constant low level pumping	5,000 cfs	9,000 cfs	Flows remaining after constant low level pumping
15,000 cfs	17,000 cfs	15,000 cfs plus 80% of the amount over 15,000 cfs	11,000 cfs	15,000 cfs	11,000 cfs plus 60% of the amount over 11,000 cfs	9,000 cfs	15,000 cfs	9,000 cfs plus 50% of the amount over 9,000 cfs
17,000 cfs	20,000 cfs	16,600 cfs plus 60% of the amount over 17,000 cfs	15,000 cfs	20,000 cfs	13,400 cfs plus 50% of the amount over 15,000 cfs	15,000 cfs	20,000 cfs	12,000 cfs plus 20% of the amount over 15,000 cfs
20,000 cfs	no limit	18,400 cfs plus 30% of the amount over 20,000 cfs	20,000 cfs	no limit	15,900 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	13,000 cfs plus 0% of the amount over 20,000 cfs

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Table 3.4.1-2. Continued

May			May			May		
Sacramento River Flow			Sacramento River Flow			Sacramento River Flow		
Is Over	Is Not Over	Bypass Flow	Is Over	Is Not Over	Bypass Flow	Is Over	Is Not Over	Bypass Flow
0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs
5,000 cfs	15,000 cfs	Flows remaining after constant low-level pumping	5,000 cfs	11,000 cfs	Flows remaining after constant low level pumping	5,000 cfs	9,000 cfs	Flows remaining after constant low level pumping
15,000 cfs	17,000 cfs	15,000 cfs plus 70% of the amount over 15,000 cfs	11,000 cfs	15,000 cfs	11,000 cfs plus 50% of the amount over 11,000 cfs	9,000 cfs	15,000 cfs	9,000 cfs plus 40% of the amount over 9,000 cfs
17,000 cfs	20,000 cfs	16,400 cfs plus 50% of the amount over 17,000 cfs	15,000 cfs	20,000 cfs	13,000 cfs plus 35% of the amount over 15,000 cfs	15,000 cfs	20,000 cfs	11,400 cfs plus 20% of the amount over 15,000 cfs
20,000 cfs	no limit	17,900 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	14,750 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	12,400 cfs plus 0% of the amount over 20,000 cfs
June			June			June		
Sacramento River Flow			Sacramento River Flow			Sacramento River Flow		
Is Over	Is Not Over	Bypass Flow	Is Over	Is Not Over	Bypass Flow	Is Over	Is Not Over	Bypass Flow
0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs	0 cfs	5,000 cfs	100% of the amount over 0 cfs
5,000 cfs	15,000 cfs	Flows remaining after constant low-level pumping	5,000 cfs	11,000 cfs	Flows remaining after constant low level pumping	5,000 cfs	9,000 cfs	Flows remaining after constant low level pumping
15,000 cfs	17,000 cfs	15,000 cfs plus 60% of the amount over 15,000 cfs	11,000 cfs	15,000 cfs	11,000 cfs plus 40% of the amount over 11,000 cfs	9,000 cfs	15,000 cfs	9,000 cfs plus 30% of the amount over 9,000 cfs
17,000 cfs	20,000 cfs	16,200 cfs plus 40% of the amount over 17,000 cfs	15,000 cfs	20,000 cfs	12,600 cfs plus 20% of the amount over 15,000 cfs	15,000 cfs	20,000 cfs	10,800 cfs plus 20% of the amount over 15,000 cfs
20,000 cfs	no limit	17,400 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	13,600 cfs plus 20% of the amount over 20,000 cfs	20,000 cfs	no limit	11,800 cfs plus 0% of the amount over 20,000 cfs

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## Appendix B: Impaired flows into an impaired estuary

The Sacramento River watershed is the main source of inflow to the Delta and is integral to current operations of the SWP and CVP. The construction of a new North Delta facility will not change the reliance on the Sacramento watershed very much. However, in conjunction with limited changes in reservoir operations and modifications to the Yolo Bypass, it will alter the timing of inflows to the Delta.

One of the goals of BDCP and the Delta Plan is to create a more natural flow regime. As noted in Chapter 4, there is little natural about the landscape, and humans are fully integrated into the ecosystem. Still, returning more natural seasonal flow changes will help in managing species whose life history traits are tied to flow cues.

The projected changes in outflow under BDCP are presented in Figure 3.1. These monthly averages are compared to current (not ELT) unimpaired outflow from the Delta, an imperfect measure of outflow under unregulated conditions that can be used for comparison of BDCP scenarios. All alternatives, including the no-project alternatives, do little to alter the significant changes in Delta outflow regime. The winter flood pulse associated with high runoff from mixed rain/snow storms has been greatly reduced in all but wet years. More significantly, the spring snowmelt pulse is attenuated, and largely missing in most of the drier years. Only late summer/early fall baseflow seasons have flows that are equal to or larger than unimpaired conditions.

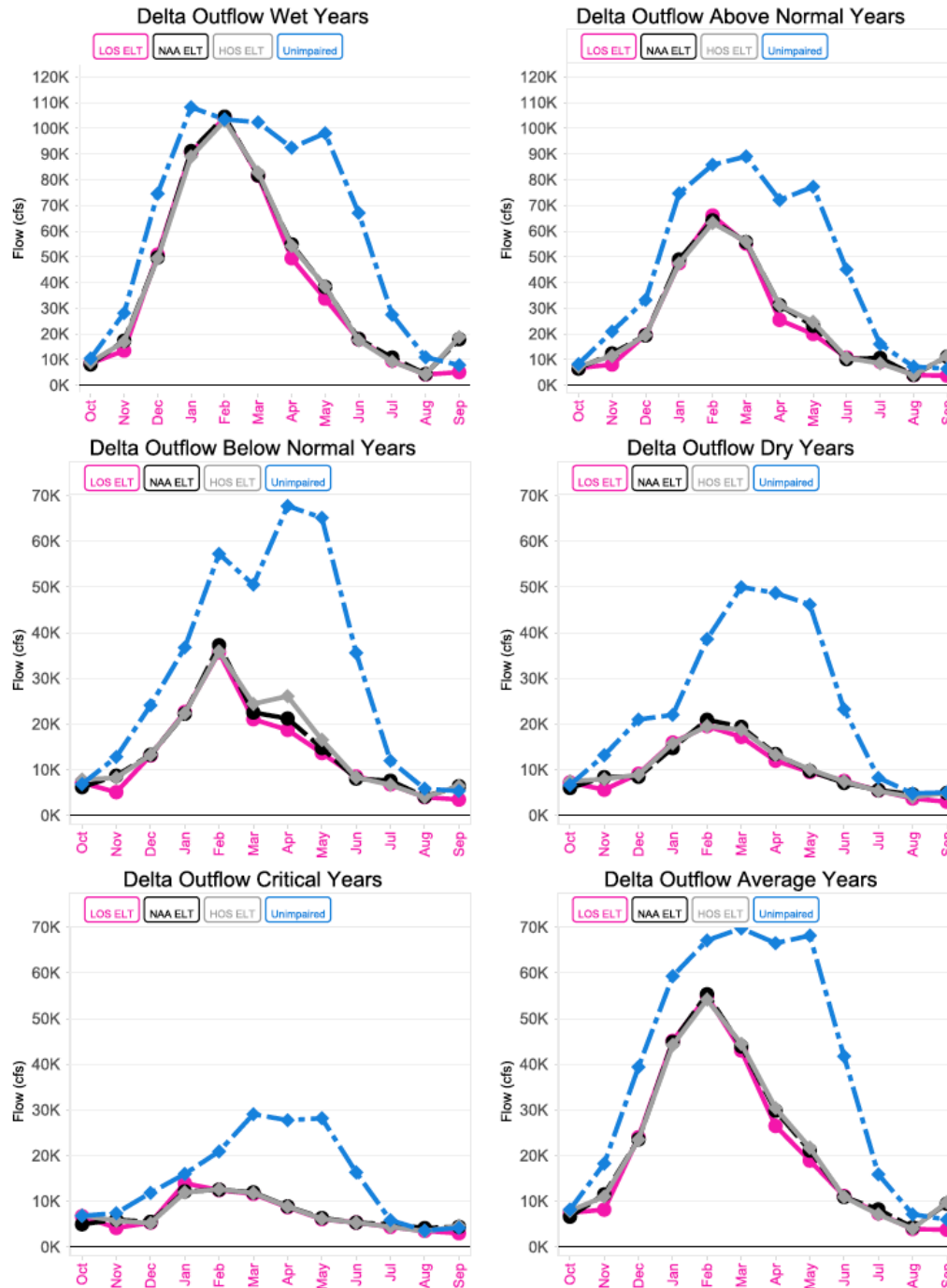
Since the Sacramento outflow is a dominant signature for estuarine conditions (second to tides), we examined the magnitude of change in inflow from the Sacramento and compared it to unimpaired flow conditions. We used two simple methods to illustrate the magnitude of change overall and relative changes between ELT scenarios. The first involves calculating a monthly impairment index,  $I$ , where:

$$I = (\text{scenario flow}) - (\text{unimpaired flow}) / (\text{unimpaired flow})$$

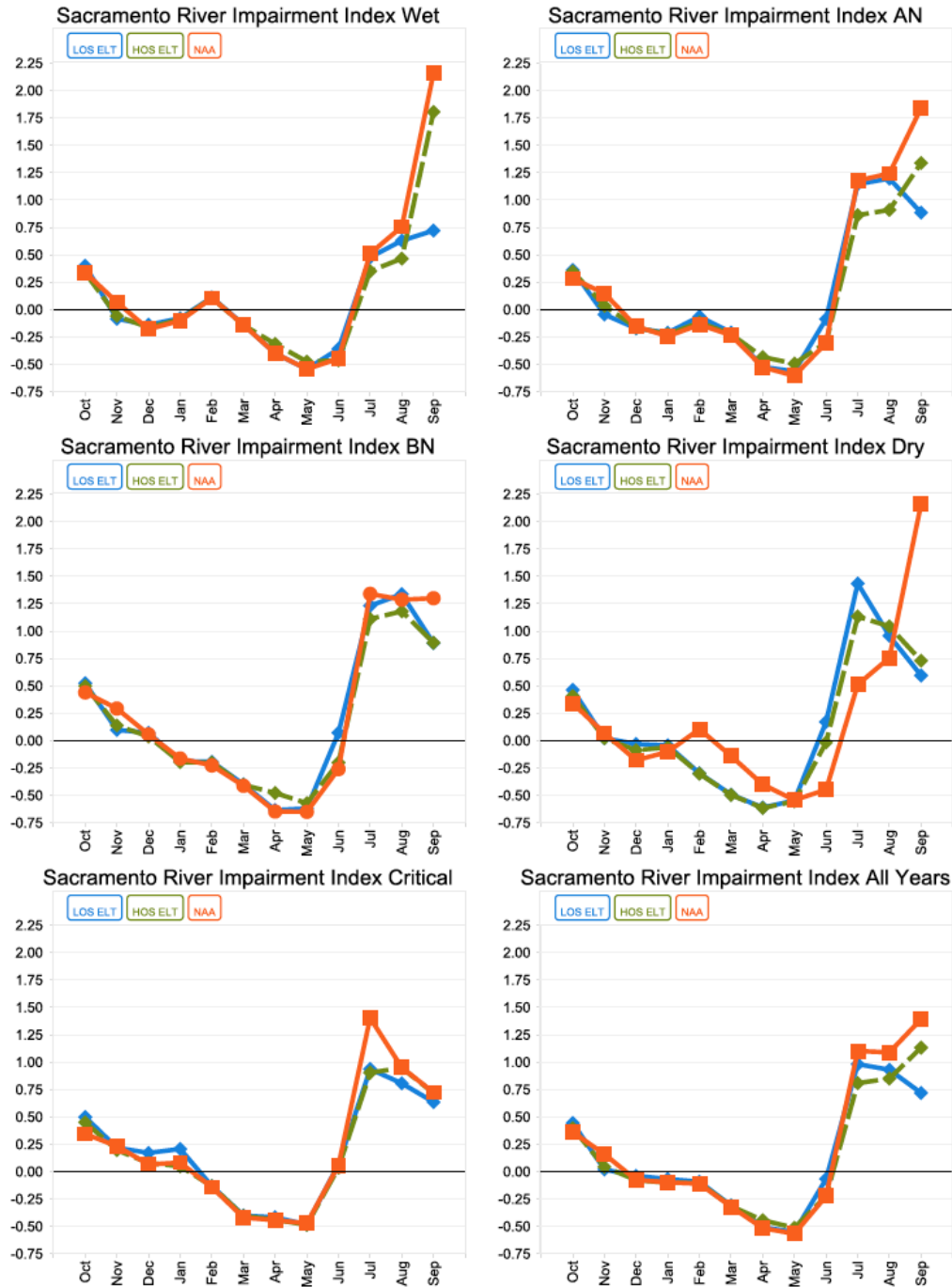
Where  $I$  approaches 0, the scenario flow is less impaired, where  $I > 0$  scenario flows exceed unimpaired flows and where  $I < 0$ , scenario flows are less than unimpaired flows. The magnitude of  $I$  is a simple way of describing the magnitude of seasonal impairment. These results are summarized in Figure 3.2 for all water year types.

The impairment index is strikingly similar in pattern for all year types, with high negative impairments during the winter and spring and high positive impairments for the summer and early fall. This result is surprising because there are only subtle differences between year classes. The only significant variation between year classes occurs in the late summer/early fall when Fall X2 outflow rules predominate.

This broad similarity in impairment highlights how uniform the hydrology of the Delta has become: an issue raised in Lund et al., 2007 and Hanak et al, 2011 as contributing to the regime change in Delta ecosystems. It also shows how little effect the HOS and LOS scenarios are likely to have on Sacramento inflows to the Delta.

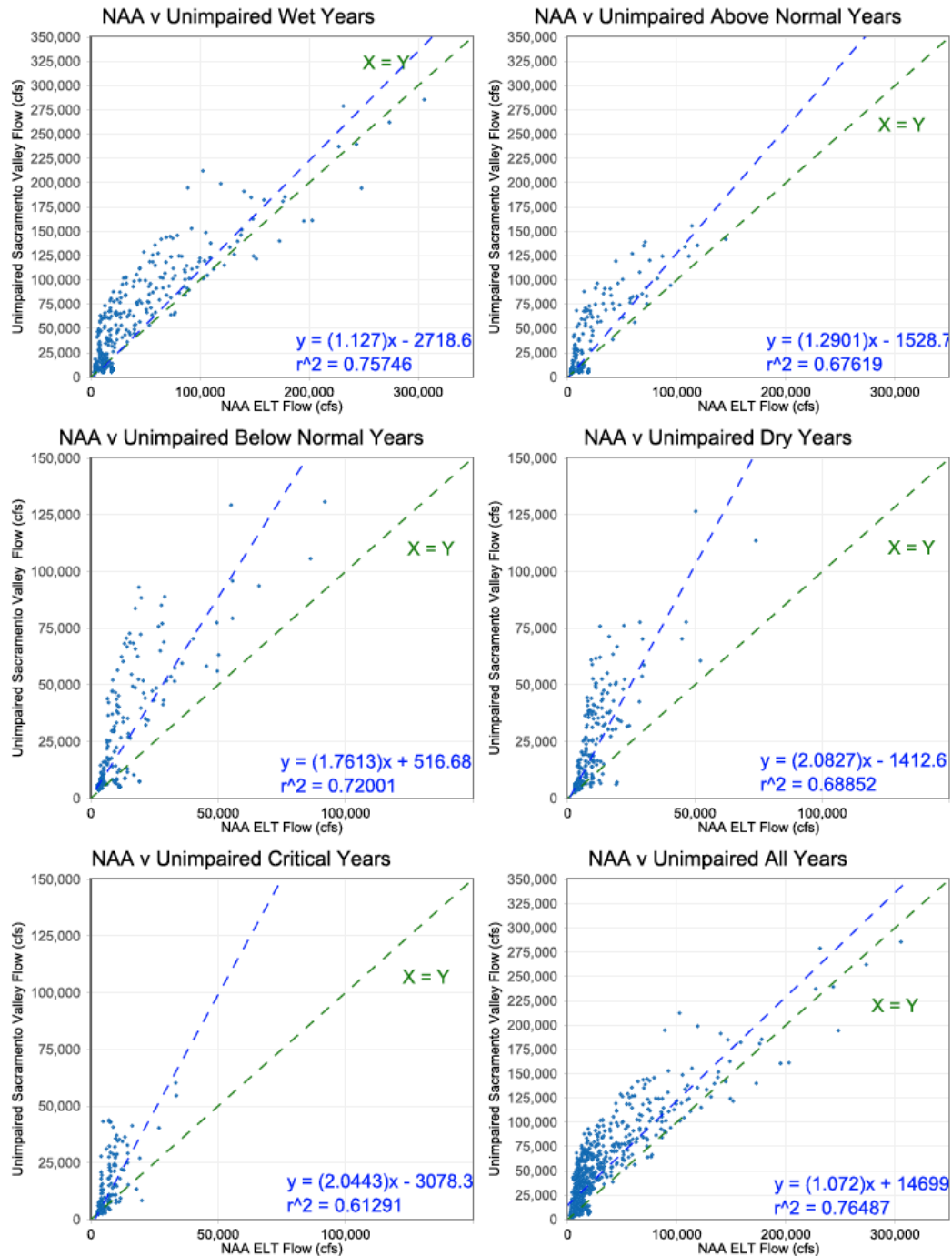


**Figure 3.1: Delta outflow under HOS, LOS, and NAA ELT in comparison to unimpaired outflow**

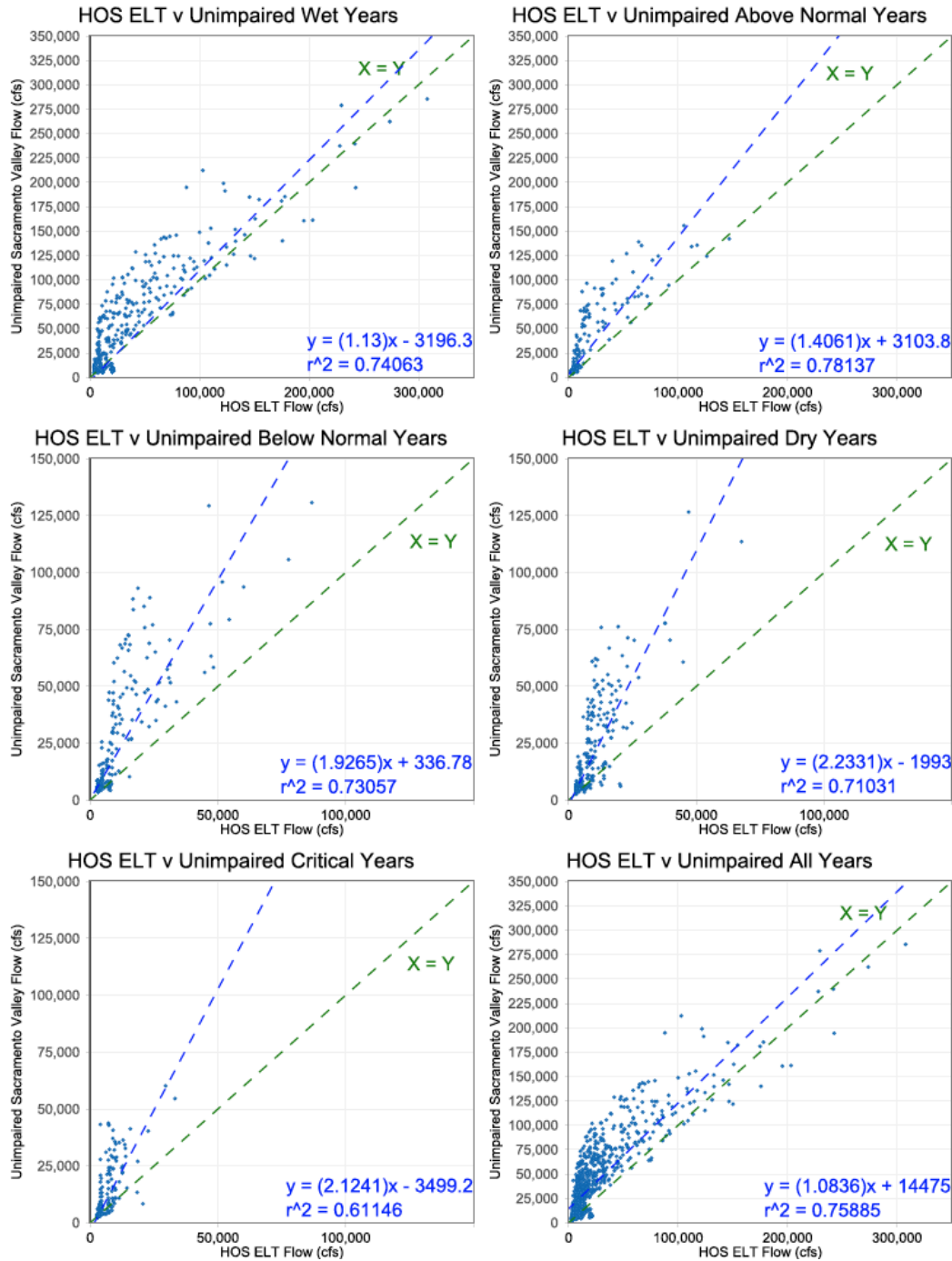


**Figure 3.2: Sacramento River impairment index for HOS, LOS and NAA ELT.**

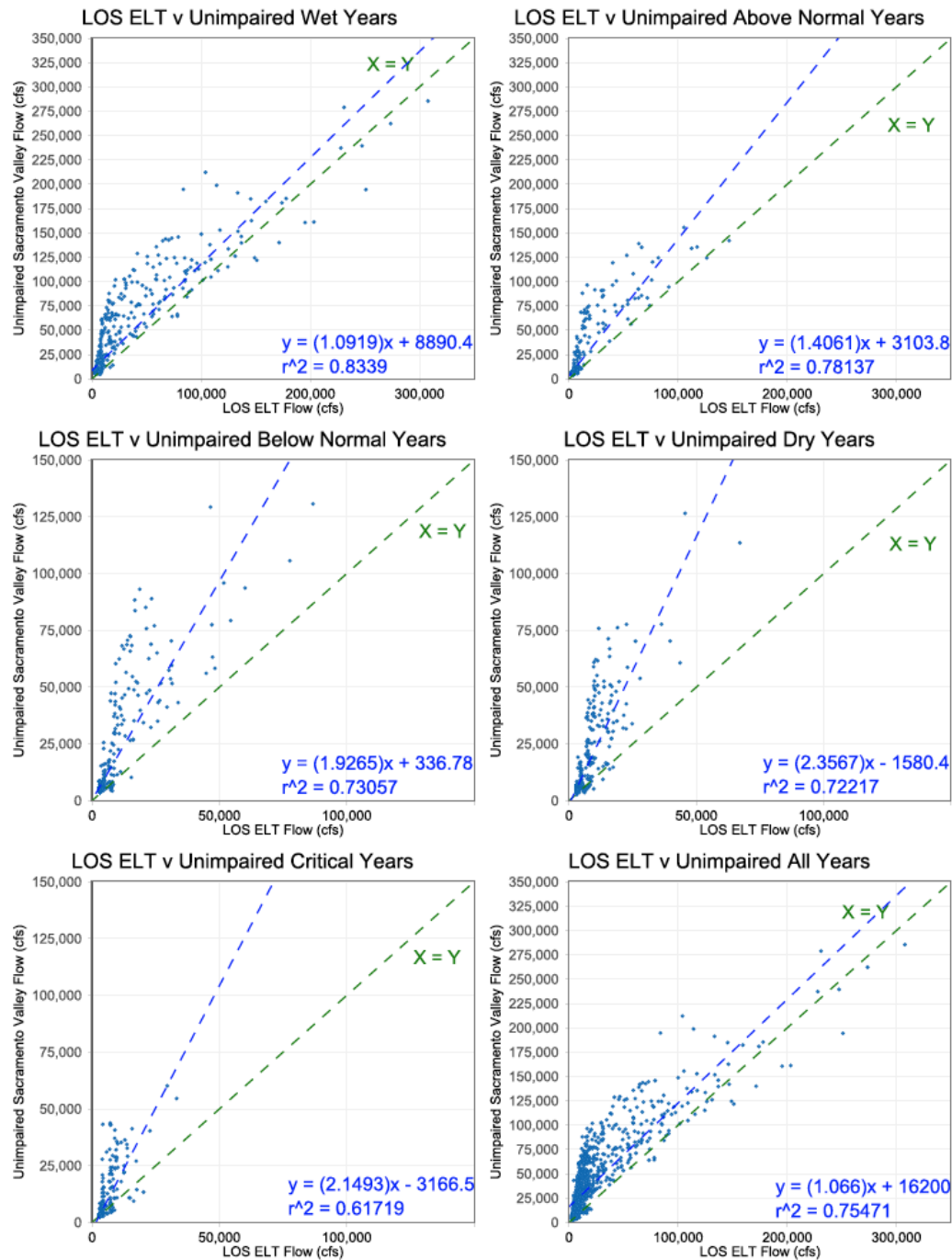
A second approach can be used to characterize total impairment of individual year types. In this, we have plotted unimpaired vs. impaired flow for each scenario and each year type, and fitted a line and calculated  $r^2$ . The deviation of the slope of the line from 1 (impaired = unimpaired) illustrates the overall magnitude of impairment, while  $r^2$  is a measure of variation in relative impairment. These results are shown in Figures 3.3-3.5.



**Figure 3.3. Scatterplot of NAA alternative Delta outflows vs. estimated unimpaired flows for ELT conditions. Higher slope and lower  $r^2$  provide a relative measure of impairment.**



**Figure 3.4: Scatterplot of HOS alternative Delta outflows vs. estimated unimpaired flows for ELT conditions. Higher slope and lower  $r^2$  provide a relative measure of impairment.**



**Figure 3.5. Scatterplot of HOS alternative Delta outflows vs. estimated unimpaired flows for ELT conditions. Higher slope and lower  $r^2$  provide a relative measure of impairment.**

The results of impairment scatterplots shows that in general, the magnitude of impairment, as measured by slope, and the magnitude of variation from unimpaired flow, as measured by  $r^2$ , are least in wet years and maximum in drier years. This reflects the dominance of water use and operations on Delta hydrology during dry

years when the capacity for water alteration is greatest. In addition, there appears to be no substantive difference between the scatterplots of the different scenarios.

## **Conclusion**

Examination of two closely related flow regimes, Delta outflow and Sacramento inflows, show that there is little difference in NAA, HOS, and LOS conditions. All represent high levels of impairment, in comparison to unimpaired flows, and the new North Delta facility and changes in export timing and magnitude have little impact on overall flow regime.

## Appendix C: Effects of changes in flow conditions on entrainment losses of delta smelt

This Appendix describes the methods and results of analyses of flows in the South Delta and their potential effects on delta smelt. The general procedure was to determine a relationship between survival or recruitment during some life stages of delta smelt, and calculate the expected response based on conditions modeled using CALSIM and using historical data. CALSIM results were available for 1922-2003 for three BDCP scenarios: NAA, HOS and LOS. Historical data were used for inflow, export flow, and outflow during 1955-2003, and Old and Middle River flows from 1980 to 2003.

The calculations were based on results of Kimmerer (2008) as amended for adult delta smelt by Kimmerer (2011). Miller (2011) pointed out some potential biases in that analysis. Young delta smelt may be more abundant in the northern Delta than previously believed, which would mean that the proportional losses calculated by Kimmerer (2008) were too high (Miller 2011); however, this potential bias was not considered amenable to quantitative analysis with the available data (Kimmerer 2011). Nevertheless, the estimates of entrainment losses and reductions in losses herein may actually be somewhat overestimated.

The principal assumptions for this analysis are stated in Chapter 6. For the analyses of export losses we used a resampling method to account for uncertainty in the underlying statistical relationships between flow and entrainment. The error distributions from these models were sampled 1000 times to arrive at uncertainty estimates. The same 1000 samples were used for each year and scenario. This allowed us to include variability due to model uncertainty, and to allow direct comparisons among scenarios. The calculation was repeated for each year to provide the variability due to the hydrological conditions modeled under each scenario. Confidence limits were estimated as quantiles of the resulting set of simulated values for each parameter.

### Losses of adult delta smelt

Losses as a proportion of the population of adult delta smelt had been estimated from salvage density, catches in the Spring Kodiak and Fall Midwater Trawl surveys, and flows in the south Delta (Kimmerer 2008, 2011). We related these estimates to total southward flow in Old and Middle Rivers:

$$Q_{sd} = \text{mean}_{\text{Dec-Mar}} \left( \begin{array}{l} 0, Q_{OM} \geq 0 \\ -Q_{OM}, Q_{OM} < 0 \end{array} \right) \quad (1)$$

where  $Q_{SD}$  is mean flow in the South Delta during December-March, and  $Q_{OM}$  is monthly mean or modeled flow in Old and Middle Rivers.

Estimated annual proportional losses  $P_L$  were related to  $Q_{SD}$  by linear regression for each year during which data were available (water years 1995-2006),



$$P_L \sim \max(0, a + bQ_{SD}) \quad (2)$$

where  $a = -0.03$  and  $b = 0.0082 \pm 0.0034$  are regression coefficients.  $P_L$  was calculated using a revised estimate of the scaling factor  $\Theta$  which accounts for uncertainty in the calculation of  $P_L$ ;  $\Theta$  has a mean of 22 and standard deviation of 5.2 (Kimmerer 2011).

Because  $P_L$  is a mortality we calculated means for a 20-year period by converting these values to survival, calculating geometric means, and converting back to proportions lost:

$$\overline{P_L} = 1 - \frac{1}{N} \prod (1 - P_{Li}) \quad (3)$$

where the overbar indicates a mean,  $N$  is the total number of years, and  $P_{Li}$  is the proportional loss for each year. The 20-year period was somewhat arbitrary but is roughly the timescale for the decline in abundance of delta smelt. To examine differences between pairs of the three scenarios we calculated the arithmetic means of differences for each pair.

There was little difference in mean  $P_L$  values between the full time series used in the analysis and the reduced time series that included the historical period (1980-2003). The No-Action Alternative (NAA) had a slightly lower percent annual loss than the historical period. The High and Low-Outflow scenarios (HOS and LOS) had similar values that were slightly below half of that of the NAA, or a net change in loss of about 3%/year.

### Losses of juvenile delta smelt

Losses as a proportion of the population of juvenile delta smelt had been estimated from the spatial distribution of fish in the 20mm survey and flows in the south Delta supplemented by particle-tracking results (Kimmerer and Nobriga 2008, Kimmerer 2008). We related these estimates to total inflow to the Delta and export flow, noting that these results may vary depending on the proportion of inflow that is from the San Joaquin River. As with adults, CALSIM output was averaged over March – May for each year and scenario.

Annual proportional loss was calculated from a regression originally derived from particle-tracking data and applied to estimated losses of young smelt:

$$P_L \sim \max(0, a + bQ_{In} + cQ_{Ex} + dQ_{In}Q_{Ex}) \quad (4)$$

where  $a = -3$ ,  $b = 0.36 \pm 0.17$ ,  $c = 0.90 \pm 0.24$ , and  $d = -0.10 \pm 0.03$  are regression coefficients (Kimmerer 2008).

$P_L$  values were accumulated and plotted as above (see Figures in Chapter 6). The annual means for the NAA were somewhat lower than the historical values, reflecting overall lower export flows than in the historical period. Both of the alternative scenarios resulted in substantial decreases in loss rates from about 14%/year to 3-5 %/year, and the LOS showed about a 2%/year higher loss rate than the HOS.

## Appendix D: Evidence for food limitation of the smelt species

Delta smelt larvae consume mainly early life stages of copepods, switching to adult copepods as soon as they are able to catch and ingest them (Nobriga 2002, Hobbs et al. 2006, L. Sullivan, SFSU, pers. comm.). Juvenile delta smelt feed mainly on adult copepods (Moyle et al. 1992, Lott 1998, Nobriga 2002, Hobbs et al. 2006), although they consume other zooplankton such as cladocerans in freshwater. The diets of adults include larger organisms such as mysids and amphipods (Bippus et al. poster 2013; Johnson and Kimmerer 2013 talk).

### Evidence in favor of food limitation (numbers in parentheses indicate the steps in the logic chain in Chapter 7)

#### Both smelt species

1. (1) Following the spread of the overbite clam *Potamocorbula* in 1987, sharp declines occurred in phytoplankton biomass and productivity, diatom production, and abundance of copepods and mysids, which are the principal prey of both species (Alpine and Cloern 1992, Kimmerer et al. 1994, Orsi and Mecum 1996, Kimmerer and Orsi 1996, Kimmerer 2005, Winder and Jassby 2011)
2. (1) At around the same time abundance indices of several fish species declined, notably anchovy, longfin smelt, and striped bass (Kimmerer 2002, 2006, Kimmerer et al. 2009), indicating an overall response of estuarine fish populations to the decline in food abundance. The decline in anchovy abundance in brackish waters (but not in high salinity) was particularly sharp and closely tied in time to the 1987 decline in phytoplankton biomass.

#### Delta smelt

3. (1) Gut fullness of delta smelt larvae was positively related to copepod density (Nobriga 2002). This suggests that when there is more food the smelt larvae eat more.
4. (1) Feyrer et al. (2003) found that delta smelt guts averaged about 40% full in Suisun Marsh before *Potamocorbula* arrived. This was similar to the gut fullness of most other fish species. It suggests that if there were more food the fish would have eaten more, or that there is some other limit to gut fullness.
5. (1) The functional response of larval delta smelt from laboratory experiments shows that the feeding rate saturates at a prey concentration well above that seen in any zooplankton samples in the smelt habitat during May –July of 1993-2011 (L. Sullivan, SFSU, unpublished; see Figure A7.1).

6. (2) Glycogen was depleted in 30% of fish in summer and 60% of fish in fall of 1999 (Fig. 28C in Bennett 2005) which could be interpreted as evidence of poor nutrition either because of a food shortage or because of some toxic effect; however the frequency of toxic damage was <10% in these fish.
7. (2) Mean lengths declined in either 1989 (Bay Study) or 1993 (FMWT study; Fig. 29 in Bennett 2005). The latter year is when the copepod *Pseudodiaptomus forbesi* shrank back from the LSZ in summer-fall, presumably because of the combined effects of clams and the introduction of other copepods. Bennett (2005, Figure 30) also showed positive relationships between mean length of delta smelt and copepod density (Bennett Fig. 30).
8. (3a) Copepod biomass is correlated with an index of survival from summer to fall (Kimmerer 2008).
9. (3a) Abundance data show evidence for density dependence between summer and fall when the early years are included (Bennett 2005 Fig. 17). A likely cause of density dependence is food limitation, although other mechanisms are also possible.
10. (1-4) Several model analyses show strong effects of food supply on the population rate of increase (Maunder and Deriso 2011, Rose et al. 2013a, b, Kimmerer and Rose, in prep). Note, however, that these models are incomplete and can only show effects based on what is in them.
11. A multivariate autoregressive (MAR) model (Mac Nally et al. 2010) showed weak support for a positive link between calanoid copepod abundance and delta smelt abundance index.

#### Longfin smelt

12. (1) Longfin smelt prey mainly on mysids after summer (Feyrer et al. 2003). Mysids declined sharply after 1987 (Orsi and Mecum 1996, Winder and Jassby 2011).
13. (Overall) Abundance of longfin smelt declined sharply after the introduction of *Potamocorbula*, when the strong effect of freshwater flow is taken into account (Kimmerer 2002, Kimmerer et al. 2009). Striped bass, which also feed on mysids (Feyrer et al. 2003), also declined at that time.
14. A multivariate autoregressive (MAR) model (Mac Nally et al. 2010) showed weak support for a positive link between calanoid copepod abundance and longfin smelt abundance index.

#### Evidence that does not support food limitation or is missing

15. The abundance of delta smelt did not change when *Potamocorbula* arrived or 1993, which were the two times of greatest change in calanoid copepod abundance in the low-salinity habitat of delta smelt

16. A changepoint model (Thomson et al. 2010) showed no link between abundance of various zooplankton and abundance indices of either smelt species.
17. Sampling for zooplankton is at too coarse a scale to represent the prey abundance that the smelt perceive, and the spatial distribution of prey cannot be replicated in the laboratory. Therefore it may be misleading to extrapolate functional responses from the laboratory to the field.
18. There is no direct evidence for effects of food on survival, maturity, or fecundity.

## Appendix E: Model of plankton subsidy from marsh to estuary

Here we assume that the restored areas will actually produce an excess of phytoplankton or zooplankton over adjacent waters, and ask what additional level of food availability to the smelt would result. This is based on a very simple model and some calculations using data from IEP monitoring, as noted below. These calculations are unpublished except where a citation is given; details of calculations are available on request.

The additional zooplankton biomass available to the open-water areas as a result of production in restored shallow subtidal areas depends on the excess production in the restored areas, the resulting gradient in biomass, the tidal exchange rate between the restored areas and open waters, and the net population growth rate of the zooplankton in the open waters. The benefit of that additional supply to the smelt species depends on the proximity of the restored area to the population centers of the smelt (Fig. 7.2).

A simple model of this subsidy is:

$$F = (B_R - B)V_R X / BV \quad (1)$$

where  $F$  ( $d^{-1}$ ) is the subsidy as a daily proportion of plankton biomass in the receiving water,  $B$  is biomass per unit volume,  $V$  is volume,  $B_R$  and  $V_R$  are biomass and volume in the restored area, and  $X$  is exchange rate as a daily proportion of the volume of the restored area ( $d^{-1}$ ). Biomass and volume units cancel out.

It is clear from Equation 1 that the subsidy is maximized when the restored area is large, the zooplankton biomass in the restored area is well above that in the open water, and exchange rate is high. However, there is an interplay among biomass  $B_R$ , volume  $V_R$ , and exchange rate  $X$ . First, water depth has three competing effects: 1) Phytoplankton growth rate is highest in shallow water where light penetration is high; 2) For a given area of restoration, volume is inversely related to water depth; 3) any bivalve grazing consumes phytoplankton and zooplankton in inverse proportion to depth. Second, as the exchange rate  $X$  increases, net population growth rate within the restored area decreases as organisms are removed by the exchange. If there is no exchange there is no subsidy, but at high levels of exchange there is also no subsidy because the zooplankton are being mixed rapidly compared to their internal growth processes (see Figure 7.3). Cloern (2007) showed that the efficiency of conversion of phytoplankton to zooplankton in a linked shallow-deep system was maximized when the tidal exchange rate  $X$  was equal to the net population growth rate of the primary consumers.

It is beyond our scope to model explicitly the growth and other processes and consequent biomass levels. However, it is possible to constrain the total phytoplankton and zooplankton biomass within a marsh using available data. During strong blooms nutrients are converted to phytoplankton biomass, but conversion is incomplete because some is lost to other foodweb components such as

detritus, bacteria, and zooplankton. Thus, the total amount of dissolved inorganic nitrogen (DIN, comprising nitrate, nitrite, and ammonium) can set an upper limit to total phytoplankton biomass.

We used data from the IEP water quality and zooplankton monitoring programs from 1975-2012. Data used were from May to October to avoid the high variability of winter flows, and to focus on the dry season when the smelt species may be most constrained by food supply. Data were taken from the low-salinity zone, extended to a salinity of 0.5 – 10, about the range of salinity where delta and longfin smelt are abundant in their first summer, and averaged by year and month.

Chlorophyll was converted to phytoplankton C using a carbon:chlorophyll ratio of 50, under the assumption of high light availability. To examine bloom conditions, we used only data for which phytoplankton biomass exceeded 200 mgC/m<sup>3</sup>. From these data, we determined the zero-intercept of a linear model of phytoplankton carbon vs. dissolved inorganic nitrogen (DIN), under the assumption that this represented the maximum conversion of DIN to phytoplankton biomass. This corresponded to about 900 mgC/m<sup>3</sup> (about 40% of the sum of phytoplankton C and DIN converted to C using a molar ratio of 6.6:1). We used that value as the upper limit for phytoplankton C in a marsh. Calanoid copepod C for adults and copepodites was estimated to be about 2.5% of actual phytoplankton C, and we assumed that this proportion would apply to the maximum phytoplankton C, or about 23 mgC/m<sup>3</sup>. Using the same data the median phytoplankton and calanoid copepod C in the open water during 1994 – 2011 were 73 and 3 mgC/m<sup>3</sup> respectively.

The optimum exchange rate was calculated separately for phytoplankton and for zooplankton. For calculation we assume a mean depth of 2m and an area of 1000 ha (2500 ac) in the restored area. From Lopez et al. (2006) the growth rate of phytoplankton in a shallow area can be modeled as

$$\mu_P = -0.09 + 1.91/H, \quad (2)$$

where H is water depth. At a water depth of 2m, this evaluates to 0.86 d<sup>-1</sup>, which we use although a similar model using data from the LSZ in 2006-2007 gave a growth rate that was about 25% lower. We assume that benthic grazing in the restored area is negligible, but cannot neglect grazing by microzooplankton. This can be modeled either as:

$$g = \max(0, 0.93 \mu_P - 0.3) \quad (3)$$

based on experimental results from the Low-Salinity Zone in 2006-2007 (York et al. 2011), or

$$g = 0.6 \mu_P \quad (4)$$

from a review of microzooplankton grazing estimates, using values for estuaries (Calbet and Landry 2004). These yield growth rates of 0.5 and 0.35 d<sup>-1</sup> respectively. The latter value is probably more generally representative of a wide range of conditions and for this analysis gives a higher net phytoplankton growth rate.

Using an exchange coefficient  $X$  set to be close to the net phytoplankton growth rate less grazing of  $0.35 \text{ d}^{-1}$  and using the volume of the LSZ of  $0.5 \text{ km}^3$  as  $V$  in Equation 1, we get:

$$F = (B_R - B)V_R X / BV = (900 - 73) (1000 \times 10^{-2} \times 2 \times 10^{-3}) 0.35 / (73 \times 0.5)$$

or about  $0.16 \text{ d}^{-1}$ . This is about half of phytoplankton growth, and about twice the (negative) net of growth less grazing by microzooplankton and clams in the LSZ based on field measurements during 2006-2008, which is now subsidized by mixing from other areas of the estuary. Thus, the extremely ideal conditions proposed above would lead to a substantial subsidy of phytoplankton to the LSZ. However, this assumes nearly perfect tuning of the exchange, ideal growth of the phytoplankton with no benthic grazing within the restored area, and perfect mixing of the discharged phytoplankton into the LSZ, which is unlikely because of its tidal movement in relation to the outlet of any marsh.

For calanoid copepods the equivalent calculation to that above is

$$F = (23 - 3) (1000 \times 10^{-2}) \times (2 \times 10^{-3}) 0.1 / (3 \times 0.5)$$

or about  $0.03 \text{ d}^{-1}$ . As before, this represents an upper limit of the likely subsidy to LSZ zooplankton. This corresponds to a turnover time of about a month, considerably longer than the population turnover time of the copepods. As with phytoplankton, this is an upper limit of the potential subsidy of copepods, which would be reduced by behavioral resistance to movement such as vertical migration, and by excess predation in the marsh compared to the adjacent open waters. Both of these reductions are likely to be very large.

### Zooplankton export from Suisun Marsh

One of the proposed restoration areas is in the northern end of Suisun Marsh. Biomass of calanoid copepods in the southern part of the marsh was about  $2\times$  that of the adjacent Grizzly Bay, based on a short-term field study and long-term monitoring data (Kimmerer and Marcal 2004). Biomass in the smaller sloughs to the north is apparently higher although nothing has been published on that (J. Durand, UC Davis, pers. comm.).

We used output from the UnTRIM hydrodynamic model (MacWilliams et al. in prep., Kimmerer et al. in press) and the FISH-PTM particle tracking model (Kimmerer et al. in prep.) to examine the residence time of particles within Suisun Marsh during the dry season. The hydrodynamic model simulates the entire estuary including marsh channels and bathymetry, but is not specifically set up to replicate flows in the marsh and therefore the results should be considered preliminary. For the entire network of channels it should give acceptable results, but to model the smaller sloughs would require a finer grid for that area.

The PTM was run for 45 days in a dry period in the historical data set (starting 1 July 1994) to examine the influence of vertical movement on retention in the estuary. The model was started with particles released throughout the northern estuary in a pattern similar to the distribution of the copepod *Eurytemora affinis*, the most abundant LSZ resident zooplankton species before *Potamocorbula* was

introduced. Over 9000 particles were released for each run at approximately the same number per unit volume throughout the marsh. Residence time was estimated as the rate of decline of the log of total particles remaining in the marsh.

For neutrally-buoyant (i.e., passive) particles, the residence time of the marsh was about 28 days, and particles continuously left the marsh during the 45-day run. Particles that either sank or migrated tidally (down on the ebb and up on the flood) had a more complex pattern but generally the particles in the northern part of the marsh did not leave the marsh during the 45-day run.

Taking the passive case first and using available bathymetric data for the volumes of the marsh and Suisun Bay, Equation 1 can be reduced to the following:

$$F = (B_R / B - 1) \times V_R / (RT \times V) = (B_R / B - 1) \times 0.07 / (28 \times 0.11) \\ = 0.02 (B_R / B - 1)$$

Based on the existing data cited above for Suisun Marsh, this flux would provide an additional 2%/d of copepods to Suisun Bay if the copepods behaved as passive particles. This is unlikely to produce a noticeable increase in copepod biomass, as their population growth rates are on the order of 10%/d. Any tidal migration or tendency to remain near the bottom (which can be common among zooplankton in shallow, well-lit waters) would greatly reduce or even eliminate the net flux from the marsh to the open waters.



## Appendix F: Effects of floodplain inundation

This Appendix explores available data on the response of phytoplankton and zooplankton biomass to flooding of the Yolo Bypass. This is to provide a basis for anticipating effects on the estuarine foodweb from floodplain inundation at lower flows in the Sacramento River.

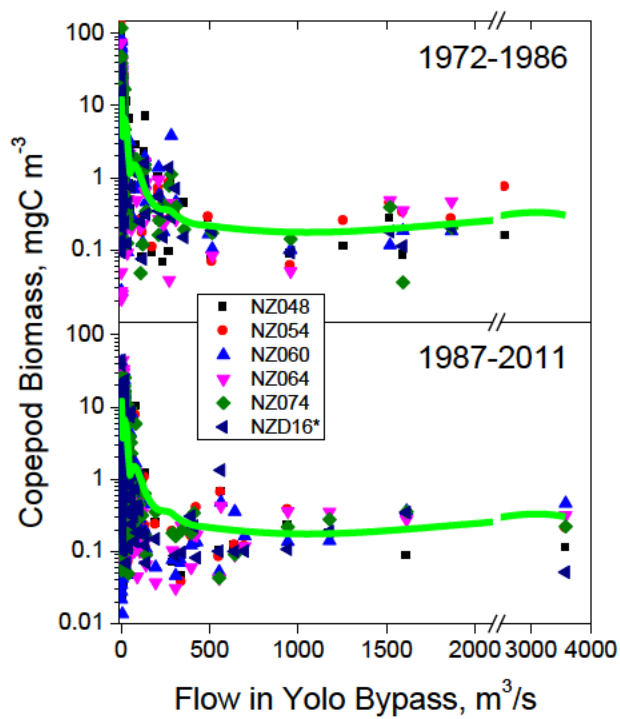
One assumption underlying BDCP plans for increased inundation of the Yolo Bypass is that it would provide a source of phytoplankton and zooplankton to the open waters of the estuary. If so, the much larger floods that occasionally inundate the Bypass now should produce measurable increases in phytoplankton and zooplankton at monitoring stations in the estuary.

The basis for this analysis was to use the IEP monitoring data to try to detect an influence of inundation of the Bypass on phytoplankton biomass as chlorophyll concentration, and zooplankton biomass calculated from abundance. IEP data were obtained from six stations in the western Delta to eastern Suisun Bay.

Chlorophyll concentration has been determined since 1976 in the zooplankton survey. Abundance of zooplankton has been determined since 1972 by species and gross life stage. We used data on adult and juvenile calanoid copepods, which are common in the diets of delta smelt and other fishes. Abundance data were converted to biomass using carbon mass per individual by species and life stage (see Kimmerer 2006 for details; carbon estimates have been updated).

Neither chlorophyll nor copepod biomass showed any effect of inundation of the Bypass. This lack of response is clear for copepod biomass in Fig. F.1, which shows that under high flows in the Bypass the biomass was generally lower than when flows were lower. The data have been stratified by groups of years separated by the time that the clam *Potamocorbula amurensis* was introduced. During both periods biomass was generally higher when the Bypass was dry than when it was flowing at a low rate ( $< 500 \text{ m}^3\text{s}^{-1}$ ). Biomass increased slightly in a handful of times when the Bypass was flowing at a higher rate, but even with this increase biomass still did not match that at the lowest flows. The difference in biomass between the pre- and post-clam period is notable at low Bypass flows.

Most of the high flows in the Bypass occurred during winter when zooplankton biomass is at its seasonal low. Inundation of the Bypass later in spring at a lower stage of the Sacramento River than is now necessary might provide conditions for higher productivity, but the lack of response of the current system at lower Bypass flows is not promising.



**Figure F.1. Copepod biomass as a function of flow in the Yolo Bypass for two time periods. Symbol shapes and colors show the sampling stations from the IEP zooplankton monitoring survey. Green line is from a generalized additive model with a loess (locally-weighted) smoothing function applied to the pre-1987 period and shown in the lower graph for comparison.**

## Appendix G: Can incidental take permits be issued to water contractors?

*Do the federal Endangered Species Act and the California Natural Community Conservation Planning Act allow the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Wildlife to issue incidental take permits to the Central Valley Project and State Water Project contractors?*

This question is significant, because the draft BDCP provides that the Authorized Entity Group shall be comprised of the Director of the California Department of Water Resources as operator of the SWP, the Regional Director of the U.S. Bureau of Reclamation as operator of the CVP, and one representative each of the CVP and SWP contractors if the contractors are issued permits under the Plan. BDCP 7-8. If we correctly understand the premise of this question, it is that only the owners and operators of the two projects—the U.S. Bureau of Reclamation and the California Department of Water Resources—are eligible to hold the incidental take permit that would govern construction and operation of the facilities authorized by the BDCP.

Although there is no definitive answer to this question, we conclude that the CVP and SWP contractors may receive incidental take permits. We base this conclusion on four factors: (1) There is nothing in either the federal Endangered Species Act or the California Natural Community Conservation Planning Act that prohibits the fish and wildlife agencies from issuing incidental take permits to entities such as the CVP and SWP contractors who receive water service from (and therefore are beneficiaries of) the permitted project operators. (2) The text of both statutes allows for the grant of incidental take permits to persons or entities other than the owners and direct operators of the projects governed by an HCP and NCCP. (3) There is precedent for the inclusion of both government entities and private landowners and resource users within a single HCP/NCCP. (4) There are good reasons both for the CVP and SWP contractors to seek the protections of an incidental take permit and for the fish and wildlife agencies to include the contractors within the management structure of the BDCP. It is therefore likely that the courts would defer to the agencies' decision to issue incidental take permits to the contractors.

The incidental take permitting and HCP provisions of section 10 of the federal ESA authorize the taking of individual members of a listed species that otherwise would be prohibited by section 9(a)(1)(B) of the Act. 16 U.S.C. § 1538(a)(1)(B). The take prohibition of section 9 applies to “any person subject to the jurisdiction of the United States.” *Id.* § 1538(a)(1). The statute defines “person” as meaning

an individual, corporation, partnership, trust, association, or any other private entity; or any officer, employee, agent, department, or instrumentality of the Federal Government, of any State, municipality, or political subdivision of a State, or of any foreign government; any State, municipality, or political subdivision of a State; or any other entity subject to the jurisdiction of the United States. [*Id.* § 1532(13).]

This definition expressly includes the CVP and SWP contractors, which are comprised primarily of instrumentalities of the state (and, in the case of the CVP, includes some individuals). The statute thus extends eligibility for (limited and conditional) exemption from the take prohibition of section 9 to the project contractors, and it contains no exclusion from this eligibility based on the fact that the contractors do not themselves own or operate the project.

The California Natural Community Conservation Planning Act addresses this question even more directly. In its articulation of the purposes of the statute, the Legislature stated:

Natural community conservation planning is a cooperative process that often involves local, state, and federal agencies and the public, including landowners within the plan area. The process should encourage the active participation and support of landowners and others in the conservation and stewardship of natural resources in the plan area during plan development using appropriate measures, including incentives. [California Fish & Game Code § 2801(j).]

The Act also declares that “Any person, or any local, state, or federal agency, independently, or in cooperation with other persons, may undertake natural community conservation planning.” *Id.* § 2809.

Indeed, the fish and wildlife agencies approved this type of multiparty, multijurisdictional, cooperative approach in the Orange County HCP/NCCP for the protection of the coastal gnatcatcher, other target species, and their habitat. The cooperating and individually permitted entities include the County of Orange, the cities of Anaheim, Costa Mesa, Newport Beach, Irvine, Laguna Beach, Orange, and San Juan Capistrano, as well as other participating public and private landowners and water users, such as Southern California Edison, the Metropolitan Water District, Irvine Ranch Water District, the Irvine Company, UC Irvine, the California Department of Parks and Recreation, and transportation corridor agencies. COUNTY OF ORANGE, FINAL NATURAL COMMUNITY CONSERVATION PLAN AND HABITAT CONSERVATION PLAN, CENTRAL AND COASTAL SUBREGION (1996), document available at <http://www.naturereserveoc.org/documents.htm>. Although this situation does not precisely mirror the relationship between the CVP and SWP and their contractors, it does serve as precedent for creation of an HCP/NCCP that includes both land and resource management agencies and public/private land and resource users as incidental take permit holders.

Finally, it makes sense for the CVP and SWP contractors to seek the protections of the incidental take permits governing operation of the facilities authorized by the BDCP, as it is their uses of project water that would potentially violate the federal and state take prohibitions. The contractors thus would benefit both from the security provided by the incidental take permits and from participation in the decisions that would shape implementation and compliance with the terms and conditions limiting coordinated CVP/SWP operations set forth in the BDCP. Concomitantly, it is in the fish and wildlife agencies' interest to have the contractors participate as permittees so that disputes between the contractors and USBR and DWR as project operators may be resolved within the forum of the Authorized Entity Group, rather than outside the purview and procedures of the BDCP. Under these circumstances, we believe that it is likely that the courts would defer to the fish and wildlife agencies' reasonable interpretation of the statutes as authorizing the grant of incidental take permits to the CVP and SWP contractors. *See Chevron U.S.A. v. Natural Resources Defense Council*, 467 U. S. 837 (1984); *American Coatings Ass'n. v. South Coast Air Quality Dist.*, 54 Cal.4th 446 (2012).

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**From:** Jason Peltier

**Sent:** Wednesday, September 25, 2013 11:47 AM

**To:** Joe Findaro; David Bernhardt; Dennis Cardoza; Tony Coelho

**Subject:** Fwd: Figh for Water Tickets on sale / Jose Ramirez Nov 9th Fight on National TV

**Attachments:** image001.gif; Untitled attachment 33280.htm; Nov%209th%20poster.jpg; Untitled attachment 33283.htm; FIGHT FOR WATER -Packages.docx; Untitled attachment 33286.htm

FYI

Begin forwarded message:

**From:** William Bourdeau <[REDACTED]>

**Date:** September 25, 2013 at 11:17:20 AM PDT

**To:** [REDACTED]

[REDACTED]

**Subject:** FW: Figh for Water Tickets on sale / Jose Ramirez Nov 9th Fight on National TV

Dear Friends,

We are gearing up for the Fight for Water. The success of this event will rest largely with our ability to get people involved, informed and motivated. With this unique event we

have an opportunity to energize our community, reach a yet untapped audience, support a local hero and work together to protect and defend a reliable water supply for all of California.

Unlike other rallies or public relations efforts, the Fight for Water has the ability to garner significant positive media attention. For businesses associated with the Ag industry or many of you who have businesses that will be adversely affected by a water shortage, the Fight for Water is a great way to show your support for the community.

As some of you know, the Fight for Water will only be won if we all work together towards a common goal. If you are interested in participating as a sponsor, purchasing a package or individual tickets to this unique event please let me know. Package information is attached and individual tickets are \$125, \$50 and \$25 per person. We can try to deliver tickets next time someone is in your area, arrange for tickets to be mailed to you or they can be picked up at the Harris Farms Headquarters on Oakland Avenue.

We have public education and outreach campaigns planned for all fight related events to get the message out regarding the need for reliable water sources for all Californians. Since you are included on this email you most likely already know how vital water is to the future of California.

I hope you are able to attend this great event. Please don't hesitate to reach out to me if you have any questions.

Thanks,

**William Bourdeau, CPA, MBA**

*Executive Vice President*

Harris Farms, Inc.

Office (559) 884-2477

Cell (559) [REDACTED]

[wbourdeau@harrisranch.com](mailto:wbourdeau@harrisranch.com)

[www.harrisranch.com](http://www.harrisranch.com)



## **Jose Ramz to Fight from his Home Town on National TV In "The Fight for Water" Main Event Saturday, Nov 9th**

**Fresno, Calif. (Sept 18, 2013)** The Central Valley has landed its biggest fight in the past 20 years as 11-time National Champion, London 2012 Olympian and all-time USA Boxing lightweight record holder, **Jose Ramz** will be the main event on an action packed night of boxing Saturday Nov 9th at Golden Eagle Arena on the West Hills College campus in Lemoore, Ca.

Ram z (5-0, 4 KOs), of Avenal, Calif, returns to the ring in the area he grew up in. The Top Rank Solo Boxeo Tecate fight card, **co-promoted by Ramz company JCR Entertainment and presented by Wonderful Pistachios**, will be televised on **UniM**

"I'm looking forward to it," said Ramirez, "It's going to be a big fight, and every aspect of the fight is big. I'm very excited to be a part of this and be able to do this for my fans and do this for my family and for the people that live here and all the sponsors that have helped my career."

**Top Rank CEO Bob Arum will attend the pre-fight news conference on Nov. 7 held at Tachi Palace Casino.**

The fight card has been dubbed "Fight for Water" because Ramirez wants to help make a difference in farm-related employment and their families who lose their jobs when water supplies are reduced. He recently joined the Latino

Water Coalition, which aims to help resolve the state's water crisis and to promote economic growth in the area he grew up.

Rick Mirigian, Ramirez's agent, said naming the event was a no-brainer. "Jose and his family struggled first hand when the water didn't flow, and times got even harder for his family, who relied on the field work and farming industry," Mirigian said. "(It's) important that the public and his fans know that no matter how big a fight he has or will ever have, that the biggest fight that could be won is the 'Fight for Water.' "

Tachi Palace Hotel and Casino will host Bob Arums Thursday November 7 press conference, as well as the official weigh-ins, a special champions dinner, pre- and post-fight activities including a meet and greet with Ramirez, plus additional activities to be announced. On fight night, there will be shuttles to and from Tachi Palace and Casino to the arena, just a 5-minute ride, every 20 minutes.

Tickets, priced at \$20, \$25, \$55, \$125 and VIP tables at \$2000 will go on sale Sept 16<sup>th</sup> and can be purchased in person at the Tachi Palace Gift Shop, by phone at (866) 4PALACE, or on-line at [www.tachipalace.com](http://www.tachipalace.com) . Tickets are also available at the West Hills College Lemoore box office (555 College Ave, Lemoore, CA 93245) \*Student, Military and Veterans discounts.  
Tel: [559-925-3317](tel:559-925-3317)

To learn more about Jose Ram z, please visit his instagram page @jcramirez2012 or like him on Facebook at <https://www.facebook.com/Joseramirezboxing> or follow him on Twitter at <https://twitter.com/RAMIREZBOXING>.

FOR ADDITIONAL INFORMATION (Media):

**For Ramirez**

Rick Mirigian: [rickmirigian@aol.com](mailto:rickmirigian@aol.com)

### **For Top Rank**

Lee Samuels: 702.378.1083 [Lee@toprank.com](mailto:Lee@toprank.com)

Ricardo Jimenez: 909.615.3436 [ricardoej@aol.com](mailto:ricardoej@aol.com)

Tickets, priced at \$20, \$25, \$55, \$125 and VIP tables at \$2000 will go on sale Sept 16<sup>th</sup> and can be purchased in person at the Tachi Palace Gift Shop, by phone at (866) 4PALACE, or on-line at [www.tachipalace.com](http://www.tachipalace.com) . Tickets are also available at the West Hills College Lemoore box office (555 College Ave, Lemoore, CA 93245) \*Student, Military and Veterans discounts.

Tel: [559-925-3317](tel:559-925-3317)



## **"FIGHT FOR WATER"**

Saturday, November 9, 2013

West Hills College, Lemoore

Date \_\_\_\_\_

Name \_\_\_\_\_

Organization \_\_\_\_\_

I am committed to purchase \_\_\_\_ number of Fight for Water ticket package/(s) of \$1,000 each.

*The Fight for Water ticket package includes the following:*

*2 - \$125.00 Tickets*

*8 - \$55.00 Tickets*

*9 - \$25.00 Tickets*

*19 – 8x10 pictures signed by Jose Ramirez*

*19 – "Fight for Water" Shirts*

Please make check payable to Top Rank and send to:

Harris Farms, Inc.

ATTN: William Bourdeau

23300 W. Oakland Ave.

Coalinga, CA 93210



**From:** Jason Peltier

**Sent:** Friday, September 27, 2013 7:31 AM

**To:** 'Karen Clark'; 'Alan Elias'; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'Cheryl Faunce'; 'David Bernhardt'; 'Dennis Cardoza'; 'Denny Rehberg'; 'Doug Subers'; 'Ed Manning'; 'Erica Woodward'; 'Erick Mullen'; 'Gayle Holman'; 'Joe Findaro'; 'Julie Minerva'; 'MargaretAnn Corbett'; 'Mike Burns'; 'Richard Costigan'; 'Susan Ramos'; 'Tony Coelho'; T Birmingham

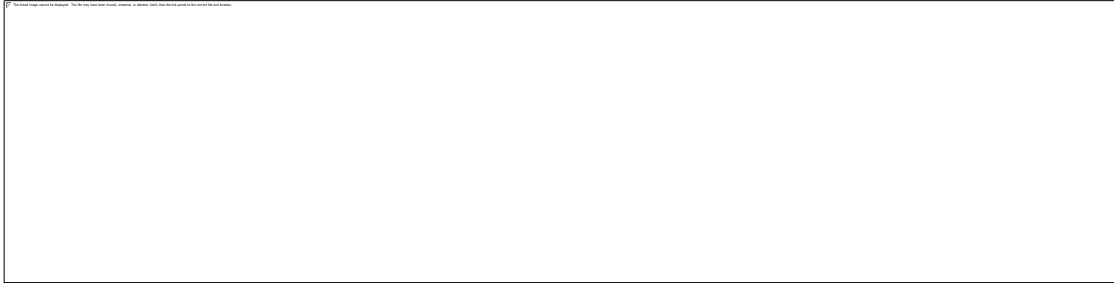
**Subject:** Delta delegation letter on BDCP costs.

<http://garamendi.house.gov/sites/garamendi.house.gov/files/documents/BDCPFederalFinancing.pdf>

**From:** joe.findaro@akerman.com  
**Sent:** Friday, September 27, 2013 7:32 AM  
**To:** jpeltier@westlandswater.org  
**Subject:** RE: Delta delegation letter on BDCP costs.

are we doing a conf call?

[V Card](#) | [Bio](#) | [akerman.com](#)



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**From:** Jason Peltier [mailto:jpeltier@westlandswater.org]  
**Sent:** Friday, September 27, 2013 10:31 AM  
**To:** 'Karen Clark'; 'Alan Elias'; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; 'Catherine Karen'; 'Cheryl Faunce'; 'David Bernhardt'; 'Dennis Cardoza'; 'Denny Rehberg'; 'Doug Subers'; 'Ed Manning'; 'Erica Woodward'; 'Erick Mullen'; 'Gayle Holman'; Findaro, Joe (OC-DC); 'Julie Minerva'; 'MargaretAnn Corbett'; 'Mike Burns'; 'Richard Costigan'; 'Susan Ramos'; 'Tony Coelho'; T Birmingham  
**Subject:** Delta delegation letter on BDCP costs.

<http://garamendi.house.gov/sites/garamendi.house.gov/files/documents/BDCPFederalFinancing.pdf>



**From:** Bernhardt, David L.  
**Sent:** Tuesday, October 1, 2013 9:56 AM  
**To:** Jason Peltier  
**Subject:** Re: LA Daily News Group

That interesting

On Oct 1, 2013, at 9:43 AM, "Jason Peltier" <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)> wrote:

## **Stop old California rivalries over water issues: Editorial**

<image001.jpg>

Posted: 09/30/13, 4:53 PM PDT |

John Garamendi, in the main an excellent statewide leader as insurance commissioner and lieutenant governor, has so often represented all Californians well.

That rare bird in state politics, a true moderate — what most Californians are themselves — he distinguished himself among Democrats as a conservationist with a business background, a rancher concerned about the environment. When he was insurance commissioner, for instance, he was instrumental in implementing that fine victory for the people who buy automotive coverage, Proposition 103. He has served a Sacramento-area district in Congress since 2009.

But it seems the politician has now lost his statewide focus. In a letter last week to the Interior Department about the proposed Bay Delta water project, Garamendi, along with six other Northern California members of Congress cosigners, takes our state back to the perennial North-vs.-South rivalry over water and other matters.

The split has sometimes been so deep that an outsider could be forgiven for believing there were two Californias, as there are two Dakotas and two Carolinas. But there are not. There is one California. Occasional semi-joking forays into spitsville politics aside, there will always be one California. And our representatives need to start reflecting that reality when it comes to the future of California.

It's not an easy matter, this proposed massive water project aimed at both making supply more reliable statewide and conserving wildlife and other resources in the vast Delta inland from the Bay Area and south of Sacramento. It is, however, an important issue for the entire state to grapple with and accomplish — together.

At this point, why would the Northern California representatives be surprised if an equal (or larger) number of members of Congress from the south signed a letter to the secretary of the Interior noting how important this plan is the state? They could legitimately argue it's needed to make water supplies safer in event of the large earthquake that is surely coming and to protect Delta lands from the over-farming that generations of access to artificially cheap water acquired by ancient rights has wrought.

Actually, it's to be hoped that such a move is precisely not what this all comes to. California representatives need to stop working at cross-purposes on water issues and dispense with the artificial construct that has created this Hatfields and McCoys rivalry. It is not "our" water, and it is not "their" water. It is California's water.

Gov. Jerry Brown, key backer of the currently proposed Bay Delta Conservation Plan, is hardly a Southern California partisan. Raised in San Francisco and former mayor of Oakland, he's spent almost all his life in Northern California. But he realizes that the answer to California's water problems will not come from retaining a strict parochialism on the matter. The "respect for water rights" that is a key part of the Northern Californians' letter to Washington asking that federal funds not be expended is code for maintaining the status quo, which has produced much environmental damage in the Delta.

The governor's plan is not perfect. But it's an ambitious start, and calls for discussion among all Californians — who a new poll shows support the project, even if they are wary about paying for it — not finger-pointing and end-arounds to federal agencies.

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**From:** Jason Peltier  
**Sent:** Monday, October 21, 2013 12:08 PM  
**To:** Joe Findaro; David Bernhardt; Craig Manson (cmanson@westlandswater.org); Julie MacDonald  
**Subject:** Fwd: ESA: Is endangered species protection the highest government priority?

FYI

Begin forwarded message:

**From:** "Mark M. Borba" <[REDACTED]@[REDACTED]>  
**Date:** October 21, 2013 at 11:57:08 AM PDT  
**To:** "Mark M. Borba" <[REDACTED]@[REDACTED]>  
**Subject:** ESA: Is endangered species protection the highest government priority?

**Worth your time to read the comments from individual  
US Senators...at the time that the ESA was passed!**

***"PEOPLE are more important than FISH!"***

**From:** [noreply+feedproxy@google.com](mailto:noreply+feedproxy@google.com) [<mailto:noreply+feedproxy@google.com>] **On Behalf Of** PLF  
Liberty Blog  
**Sent:** Monday, October 21, 2013 7:05 AM  
**To:** Ross Borba, Jr.  
**Subject:** PLF Liberty Blog: Is endangered species protection the highest government priority?

**PLF Liberty Blog: Is endangered species  
protection the highest government priority?**

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**Is endangered species protection the highest government priority?**

Posted: 21 Oct 2013 07:00 AM PDT

Authored by **Damien M. Schiff**

This week, as we begin our blogfestschrift in honor of the Endangered Species Act's 40th anniversary, I think it important that we return to the decision that, more than any other, has influenced how the Act is interpreted. In *TVA v. Hill*, the United States Supreme Court ruled that the Tellico Dam project in eastern Tennessee could not be completed, because it would impermissibly harm the snail darter, an ESA-protected fish. The government had argued that, even if the project technically violated the Act, federal courts nevertheless have the equitable power to allow projects to go forward notwithstanding their species impacts. The government underscored that the dam project was nearly complete, had been begun well before the passage of the ESA, and had received millions of federal tax dollars that would now be wasted if the project were stopped.

No matter, ruled the Supreme Court. In an opinion authored by Chief Justice Warren Burger, the Court held that Congress, in enacting the ESA, removed the traditional equitable power of federal courts. Based on the Act's text and legislative history, the Court concluded that Congress "has spoken in the plainest of words, making it abundantly clear that the balance has been struck in favor of affording endangered species the highest of priorities."

The decision sparked nationwide controversy and fear that the ESA would fundamentally alter federal agency practice and federal project funding. In response, Congress passed the 1978 amendments to the ESA, which among other things added an Endangered Species Committee. This body, known perhaps pejoratively as the God Squad, is composed of various high-level officials and has the power, on a case-by-case basis, to grant exemptions to projects that otherwise would violate the ESA's command not to jeopardize endangered species' continued existence. For a variety of reasons, the Committee has rarely operated, but the fact of its existence speaks volumes, in my mind, as to the accuracy of the Supreme Court's divination of Congressional intent.

On that point, I have recently been perusing the legislative history for the 1978 amendments (which passed by nearly the same margin as the 1973 Act). That history makes clear that the members of Congress who voted for the ESA never dreamed that it would be applied so broadly and vigorously. Senator Wallop of Wyoming observed on the Senate floor:

To my mind the greatest threat to [the ESA] all along has . . . been . . . that its provisions can be used by well-intentioned individuals to stop Federal projects as a primary goal and in a way never intended by Congress . . . [A]n individual or group opposed to a particular Federal project [can] find one of those million of species and have its critical habitat protected not for the sake of the species, but to prevent the project . . . [I]t is very possible that a good scientist with enough desire may be able to find an endangered species or subspecies on the vast areas impacted by a Federal project.

Senator Garn of Utah expressed a similar sentiment in advocating for the amendments that would authorize the Endangered Species Committee:

Some mechanism needs to be found to keep special interest groups from using the Endangered Species Act cynically, for their own purposes. I have talked to a number of "environmentalists" who do not care about some of these endangered species at all. They are using the act as a way to attack the construction of dams, grazing, drilling, mining, and any other activity they think is undesirable.

Other Senators were concerned about how the original Act was drafted so broadly as to risk being converted into an anti-human vehicle. As Senator Scott of Virginia explained:

After reading the 1973 Endangered Species Act, it seems apparent that Congress concentrated upon the protection of fish, wildlife, and plants in a most general and constructive manner. However, it also seems apparent that we—I say "we," because I was a Member of the Senate and this passed on a rollcall unanimous vote—neglected to give sufficient emphasis to our own welfare, to the fact that mankind is superior to animal and plant life, that both are under the dominion of man. Of course we should protect fish and wildlife in every proper way, and I would not suggest any other course, but in our stewardship over fish, wildlife, and plants, it does not appear reasonable to jeopardize the welfare of mankind, the society we have created, the economic, social, political, and cultural system we have developed over the years.

Mr. President, I am concerned about human like. To me human life takes priority over that of any fish, of any wildlife, of any species of plant.

People are more important than fish.

In a similar vein, Senator Stennis of Mississippi noted:

I believe that in passing the Endangered Species Act we inadvertently unbalanced the scales unduly. We must redress the situation and enact legislation which does not unnecessarily and unreasonably hamper progress, growth, and development.

Senator Garn also explained how the 1973 Act's broad text did not correlate well to the Congress's true intentions.

Certainly, in 1973, there was a great environmental push. The Endangered Species Act passed the Senate extremely easily, with no dissenting votes. But, talking to many of my colleagues, I learn that they certainly would not have voted for it if they had known the implications and the extremes to which the act would be carried. . . . I think we need to face the fact that, in 1973, Congress did not say that endangered species were to be protected at any cost.

In the case of TVA against Hill, the Supreme Court concluded that it had been Congress' intent to provide endangered or threatened wildlife and plants the highest possible degree of protection from Federal actions. All other national goals, the Court said, must fall in the face of a threat to an endangered species. . . . That interpretation is, in my opinion, patent nonsense, and it is not the interpretation put upon the act by the Congress in passing it.

In fact, Senator Garn's position is probably typical of many legislators at the time who were prepared to go to some lengths to protect certain "charismatic" species who would view significant sacrifice for all species to be unwarranted.

I would be in favor of undertaking tremendous costs to preserve the bald eagle, but that kind of effort is out of proportion to the value of the woundfin minnow, or the snail darter, or the lousewort, or the waterbug, or many others that we are attempting to protect."

Of course, one must always be chary about picking various statements from Congressional floor debates. For as many of these comments, there are comments from other Senators singing the praises of the ESA. Nevertheless, I believe it is a significant indicator of Congressional intent that the 1978 amendments were passed nearly unanimously, Congress acknowledging that the Supreme Court's strict construction of the Act was not politically and socially viable.

The post **[Is endangered species protection the highest government priority?](#)** appeared first on **[PLF Liberty Blog](#)**.

Related posts:

1. **[The unassailable Endangered Species Act](#)**
2. **[Will stem cell research make endangered species protection unnecessary?](#)**
3. **[Endangered Species Day?](#)**

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**From:** Jason Peltier  
**Sent:** Tuesday, October 22, 2013 10:15 AM  
**To:** Dennis Cardoza; David Bernhardt; Joe Findaro  
**Subject:** Heads up re Huffman and COE language  
**Attachments:** Huffman Amendment to WRRDA.pdf

---

**From:** Dan Keppen [mailto:dankeppen@charter.net]  
**Sent:** Tuesday, October 22, 2013 10:00 AM

**Subject:** Need you to look at ASAP

Dear Alliance Directors and Advisory Committee Members:

House Committee staff have asked us to review the attached amendment that Rep. Jared Huffman (CA) filed to the pending House WRRDA bill. You will see that it allows the Corps to change its dam operations under the guise of a number of reasons, including for fish, environmental protection, etc. I've seen some comments generated by others on this. Some water and power interests are flat out opposed to it, and believe it sets dangerous precedent by allowing the Secretary to change operations based off weather forecasts to restore, protect, and mitigate impacts of a water resources development project on the environment and to improve fish species. Critics view this amendment as just another ploy to go after existing dams.

However, others have noted that this language is an improvement over similar attempts to have the Corps look at project re-ops and it won't be viewed entirely negatively by some of our guys. However, it raises a number of questions and has several potential holes that could be problematic unless addressed.

- 1) The amendment appears to apply to all projects, not just Corps projects, so this would affect agencies Like Modesto, Turlock and Merced IDs that own and operate non-federal dams, but are subject to Corps flood control rules
- 2) The opening phrase, "At the request of the non-federal sponsor" is very positive and is something that Corps project local sponsors have tried to get into similar Senate 'optimization' language a couple of times.
- 3) Although the meaning of the term "non-federal sponsor" is pretty clear when it comes to Corps projects, it is not clear how that would translate for USBOR projects. The water contractors for a project? Could it mean "beneficiaries," a title that any group could claim? Also, what does it mean for locally or state-owned projects?
- 4) Also positive is the focus on improved forecasting data
- 5) Although the amendment appears to require Corps to get the local sponsor's permission to review project operations, it does not require the Corps to consult with the local sponsor/owner/water contractor/water rights holder.
- 6) The list of "core functions" that could be enhanced by better operations doesn't explicitly include water supply. It's fair to say that water supply is implied, but not mentioning it appears to give it less than equal footing with the purposes explicitly mentioned
- 7) There is no explicit protection or hold-harmless for existing project purposes and benefits.
- 8) In (3), the term "a water resources development project" is vague. It could mean impacts of a project hundreds of miles from the one being reviewed.
- 9) The bill requires the Corps to report its results to Congress, but authorizes the Corps to change operations without Congressional approval. Some water users will like that, others won't. And what does it mean for Reclamation projects?

Please look at this [ASAP](#) and get back to me with your thoughts since this bill will be considered by the full House tomorrow. Thanks.

Dan Keppen  
Executive Director



**AMENDMENT TO THE RULES COMMITTEE PRINT**  
**FOR H.R. 3080**  
**OFFERED BY MR. HUFFMAN OF CALIFORNIA**

At the end of title I, insert the following:

**1    SEC. 1       . REVIEW OF RESERVOIR OPERATIONS.**

2        (a) IN GENERAL.—At the request of a non-Federal  
3    sponsor of a reservoir, the Secretary, in consultation with  
4    the Administrator of the National Oceanic and Atmos-  
5    pheric Administration, shall review its operation, including  
6    the water manual and rule curves, using improved weather  
7    forecasts, based on the Advanced Hydrologic Prediction  
8    System of the National Weather Service.

9        (b) DESCRIPTION OF BENEFITS.—In conducting the  
10   review under subsection (a), the Secretary shall determine  
11   if a change in operations, including the use of improved  
12   weather forecasts, would improve one or more of the core  
13   functions of the Army Corps of Engineers, including—

- 14            (1) reducing risks to human life or public safety  
15            or property;  
16            (2) reducing the need for future disaster relief;  
17            (3) restoring, protecting, or mitigating the im-  
18            pacts of a water resources development project on  
19            the environment; or

1           (4) improving fish species habitat or population  
2       within the boundaries and downstream of a water  
3       resources project.

4       (c) RESULTS REPORTED.—The Secretary shall sub-  
5       mit a report to Congress regarding the results of the re-  
6       view under this section.

7       (d) MANUAL UPDATE.—If the Secretary determines  
8       from the results of the review that using improved weather  
9       forecasts improves one or more core functions of the Army  
10      Corps of Engineers at a reservoir, the Secretary shall in-  
11      corporate such changes in its operation and update the  
12      water control manual.



**From:** Karen Clark

**Sent:** Friday, October 25, 2013 8:03 AM

**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'

**Subject:** November 1 P/R Legislation Conference Call

**Importance:** High

All,

Per Tom's request, we WILL have a conference call on November 1. Please update your calendars.

Thanks!

*~Karen*

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Karen Clark

**Sent:** Wednesday, October 30, 2013 9:53 AM

**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'

**Subject:** November PR/Legislation Conference Call

**Importance:** High

All,

Tom stated last week that we would have a PR/Legislation conference call on Friday (November 1), however, I've conferred with him and based on his calendar, we will indeed not be able to have the call on Friday. Please update your calendars. Feel free to call me if you have any questions.

Thanks!

*~Karen*

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Westlands Water District

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(c) 559.230.9470

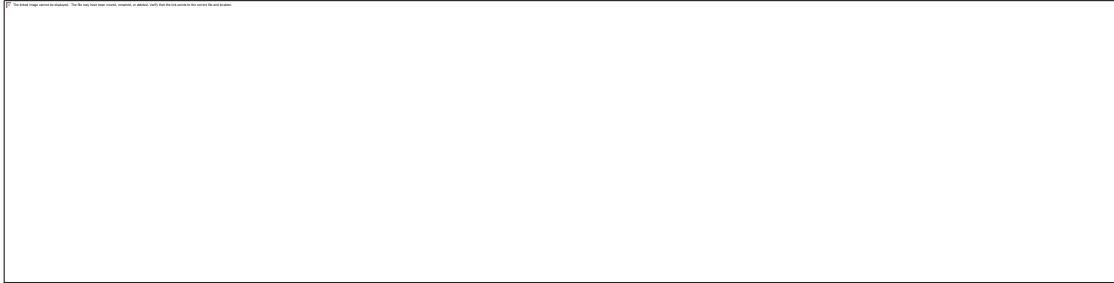
(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** joe.findaro@akerman.com  
**Sent:** Wednesday, October 30, 2013 9:54 AM  
**To:** kclark@westlandswater.org  
**Subject:** RE: November PR/Legislation Conference Call

thanks Karen.

[V Card](#) | [Bio](#) | [akerman.com](#)



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**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Wednesday, October 30, 2013 12:53 PM  
**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; Findaro, Joe (OC-DC); Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'  
**Subject:** November PR/Legislation Conference Call  
**Importance:** High

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(c) 559.230.9470  
(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Bernhardt, David L.  
**Sent:** Wednesday, October 30, 2013 9:56 AM  
**To:** 'Karen Clark'  
**Subject:** RE: November PR/Legislation Conference Call

I suspected you knew more about his calendar than he did and it has now been proven.

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
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**From:** Minerva, Julie  
**Sent:** Wednesday, October 30, 2013 10:04 AM  
**To:** 'Karen Clark'  
**Subject:** RE: November PR/Legislation Conference Call

thanks Karen.

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Wednesday, October 30, 2013 12:53 PM  
**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Cardoza, Dennis; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Woodward, Erica; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Minerva, Julie; MargaretAnn Corbett; 'Mike Burns'; Costigan, Richard; 'Susan Ramos'; 'Tony Coelho'  
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**From:** Karen Clark  
**Sent:** Wednesday, October 30, 2013 4:40 PM  
**To:** 'Bernhardt, David L.'  
**Subject:** RE: November PR/Legislation Conference Call

Tom and I try to communicate. Sometimes it works, sometimes it doesn't. ☺

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
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P.O. Box 6056  
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**From:** Bernhardt, David L. [mailto:DBernhardt@BHFS.com]  
**Sent:** Wednesday, October 30, 2013 9:56 AM  
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**Subject:** RE: November PR/Legislation Conference Call

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**From:** Jason Peltier

**Sent:** Monday, November 4, 2013 3:28 PM

**To:** Ara.azhderian@sldmwa.org; Tom Boardman; Gayle Holman; Mike Henry; Mike Wade; David Bernhardt; Dennis Cardoza

**Subject:** FW: CVP Begins Water Year 2014 with 5.1 Million Acre-Feet of Storage (75% of the 15-Year Average)

This should fit nicely with “a 0-10% initial allocation if precip is normal and they apply the same fish restrictions as this year.”

## News Release

# RECLAMATION

*Managing Water in the West*

**Mid-Pacific Region  
Sacramento, Calif.**

MP-13-210

Media Contact: Pete Lucero, 916-978-5100, [plucero@usbr.gov](mailto:plucero@usbr.gov)

For Release On: Nov. 4, 2013

### **Central Valley Project Begins Water Year 2014 with 5.1 Million Acre-Feet of Storage (75 Percent of the 15-Year Average) Reclamation and Stakeholders Have Developed Strategies to Address Potential Water Supply Challenges**

**SACRAMENTO, Calif.** - The Bureau of Reclamation's Central Valley Project began water year 2014 (Oct. 1, 2013, to Sept. 30, 2014) with 5.1 million acre-feet of water in six key CVP reservoirs (Shasta, Trinity, Folsom, New Melones and Millerton reservoirs and the federal share of the joint federal/state San Luis Reservoir). One acre-foot is the volume of water sufficient to cover an acre of land to a depth of one foot, enough water to sustain a typical California household of four for one year.

The following tables show reservoir capacities and end-of-year storage comparisons for WYs 2012 and WY 2013 for key CVP reservoirs and compare end-of-year storage from WY 2009 to WY 2013. (This announcement was delayed due the Federal government shutdown.)

CVP Reservoir Capacities and End of WY 2013 Storage in Million Acre-feet							
Reservoirs	Annual Storage Comparisons						15-Year Average Storage
CVP Reservoirs and Capacities	2013	% of Capacity	% of 15 Yr Average	2012	% of Capacity	% of 15 Yr Average	1997-2013
Shasta 4.552	1.9	42	74	2.6	57	96	2.590
New Melones 2.42	1.0	41	70	1.5	62	97	1.487
Trinity 2.448	1.3	53	81	1.8	74	108	1.612
Folsom .977	.36	37	70	.45	46	84	.518
Millerton .52	.32	61	128	.32	61	124	.248

<b>Federal San Luis</b>	<b>.966</b>	<b>.22</b>	<b>23</b>	<b>77</b>	<b>.25</b>	<b>26</b>	<b>78</b>	<b>.290</b>
<b>Total</b>	<b>11.8</b>	<b>5.1</b>	<b>43</b>	<b>75</b>	<b>6.9</b>	<b>58</b>	<b>98</b>	<b>6.497</b>

<b>Comparison of Previous End-of-Year Storage</b>						
<b>Million Acre-feet</b>						
<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>1977 (Driest Year)</b>	<b>1983 (Wettest Year)</b>
<b>5.1</b>	<b>6.9</b>	<b>9.3</b>	<b>7.4</b>	<b>4.8</b>	<b>1.5</b>	<b>9.8</b>

Thanks to a near-average carryover from WY 2012 into WY 2013 and a wet November and December 2012, the beginning of WY 2013 looked promising; however, January through May 2013 were California's driest in about 90 years of recordkeeping, resulting in WY 2013 being a challenging year hydrologically. The historically low precipitation from January through May resulted in minimal reservoir inflows when needed most, low water allocations for CVP contractors, challenges managing Delta salinity and early increases in reservoir releases.

The CVP provides irrigation water critical to about 3 million acres of agricultural land in the San Joaquin and Sacramento valleys and along California's central coast. The CVP also provides urban water for millions of people and industrial water essential to the San Francisco Bay Area's economy. Water from the CVP is also crucial for the environment, wildlife and fishery restoration and hydroelectric power production.

During WY 2013, CVP powerplants generated about 4.3 billion kilowatt-hours. Project use consumed about 25 percent of this energy; the remaining energy was made available for marketing. The Mid-Pacific Region's hydroelectric generators have a combined capacity of approximately 2.1 million kilowatts.

#### ***2014 Water Actions and Strategies***

In an effort to proactively address potentially dry conditions in WY 2014, the Mid-Pacific Region held a series of meetings with CVP water contractors, power customers, tribes, non-governmental organizations, other federal agencies and state of California agencies to facilitate open communication on the status of WY 2013 and to brainstorm additional water management strategies for WY 2014. Stakeholders were asked to provide ideas and suggestions for Reclamation's consideration in developing strategies in support of a potentially dry WY 2014.

"We began to examine operational flexibilities with our partner agencies and look at new water management strategies with stakeholders throughout California," stated Mid-Pacific Regional Director David Murillo. "I was encouraged by the collaboration and cooperation displayed by our customers and stakeholders during the meetings and impressed with their creative and wide-ranging ideas. I am pleased to announce that the resultant "Draft WY 2014 Water Plan" is now available on our region's website."

To view the "Draft WY 2014 Water Plan," which contains a complete listing of the actions and strategies, please visit [www.usbr.gov/mp/Water\\_Supply\\_Meetings/index.html](http://www.usbr.gov/mp/Water_Supply_Meetings/index.html).

As WY 2014 gets under way, Reclamation will monitor and evaluate hydrologic conditions. Reclamation will announce preliminary WY 2014 CVP water supply conditions in late January and will release the initial CVP water supply allocations a few days prior to the start of the contract year, which begins on March 1.

As WY 2014 progresses, Reclamation will adjust the allocations, as warranted, to reflect updated snowpack and runoff. Current allocations and background information are available at [www.usbr.gov/mp/pa/water](http://www.usbr.gov/mp/pa/water).

For additional storage information, please visit [www.usbr.gov/mp/cvo](http://www.usbr.gov/mp/cvo) or contact the Public Affairs Office at 916-978-5100 (TTY 800-877-8339) or email [mppublicaffairs@usbr.gov](mailto:mppublicaffairs@usbr.gov).

# # #

Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 Western States. Its facilities also provide substantial flood control, recreation and fish and wildlife benefits. Visit our website at <http://www.usbr.gov>.

If you would rather not receive future communications from Bureau of Reclamation, let us know by clicking [here](#).  
Bureau of Reclamation, Mid-Pacific 2800 Cottage Way, Sacramento, CA 95825 United States

**From:** Mike Wade

**Sent:** Monday, November 4, 2013 3:36 PM

**To:** Jason Peltier

**CC:** Ara.azhderian@sldmwa.org; Tom Boardman; Gayle Holman; Mike Henry; David Bernhardt; Dennis Cardoza

**Subject:** Re: CVP Begins Water Year 2014 with 5.1 Million Acre-Feet of Storage (75% of the 15-Year Average)

98 percent of the system's 15 year average = disaster...the new normal.

---

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On Nov 4, 2013, at 2:27 PM, Jason Peltier wrote:

This should fit nicely with “a 0-10% initial allocation if precip is normal and they apply the same fish restrictions as this year.”

**News Release**

**RECLAMATION**  
*Managing Water in the West*

**Mid-Pacific Region  
Sacramento, Calif.**

MP-13-210

Media Contact: Pete Lucero, 916-978-5100, [plucero@usbr.gov](mailto:plucero@usbr.gov)

For Release On: Nov. 4, 2013

## Central Valley Project Begins Water Year 2014 with 5.1 Million Acre-Feet of Storage (75 Percent of the 15-Year Average)

### Reclamation and Stakeholders Have Developed Strategies to Address Potential Water Supply Challenges

**SACRAMENTO, Calif.** - The Bureau of Reclamation's Central Valley Project began water year 2014 (Oct. 1, 2013, to Sept. 30, 2014) with 5.1 million acre-feet of water in six key CVP reservoirs (Shasta, Trinity, Folsom, New Melones and Millerton reservoirs and the federal share of the joint federal/state San Luis Reservoir). One acre-foot is the volume of water sufficient to cover an acre of land to a depth of one foot, enough water to sustain a typical California household of four for one year.

The following tables show reservoir capacities and end-of-year storage comparisons for WYs 2012 and WY 2013 for key CVP reservoirs and compare end-of-year storage from WY 2009 to WY 2013. (This announcement was delayed due the Federal government shutdown.)

<b>CVP Reservoir Capacities and End of WY 2013 Storage in Million Acre-feet</b>							
<b>Reservoirs</b>	<b>Annual Storage Comparisons</b>						<b>15-Year Average Storage</b>
<b>CVP Reservoirs and Capacities</b>	<b>2013</b>	<b>% of Capacity</b>	<b>% of 15 Yr Average</b>	<b>2012</b>	<b>% of Capacity</b>	<b>% of 15 Yr Average</b>	<b>1997-2013</b>
<b>Shasta 4.552</b>	<b>1.9</b>	<b>42</b>	<b>74</b>	<b>2.6</b>	<b>57</b>	<b>96</b>	<b>2.590</b>
<b>New Melones 2.42</b>	<b>1.0</b>	<b>41</b>	<b>70</b>	<b>1.5</b>	<b>62</b>	<b>97</b>	<b>1.487</b>
<b>Trinity 2.448</b>	<b>1.3</b>	<b>53</b>	<b>81</b>	<b>1.8</b>	<b>74</b>	<b>108</b>	<b>1.612</b>
<b>Folsom .977</b>	<b>.36</b>	<b>37</b>	<b>70</b>	<b>.45</b>	<b>46</b>	<b>84</b>	<b>.518</b>
<b>Millerton .52</b>	<b>.32</b>	<b>61</b>	<b>128</b>	<b>.32</b>	<b>61</b>	<b>124</b>	<b>.248</b>
<b>Federal San Luis .966</b>	<b>.22</b>	<b>23</b>	<b>77</b>	<b>.25</b>	<b>26</b>	<b>78</b>	<b>.290</b>
<b>Total 11.8</b>	<b>5.1</b>	<b>43</b>	<b>75</b>	<b>6.9</b>	<b>58</b>	<b>98</b>	<b>6.497</b>

<b>Comparison of Previous End-of-Year Storage</b>						
<b>Million Acre-feet</b>						
<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>1977 (Driest Year)</b>	<b>1983 (Wettest Year)</b>
<b>5.1</b>	<b>6.9</b>	<b>9.3</b>	<b>7.4</b>	<b>4.8</b>	<b>1.5</b>	<b>9.8</b>

Thanks to a near-average carryover from WY 2012 into WY 2013 and a wet November and December 2012, the beginning of WY 2013 looked promising; however, January through May 2013 were California's driest in about 90 years of recordkeeping, resulting in WY 2013 being a challenging year hydrologically.

The historically low precipitation from January through May resulted in minimal reservoir inflows when needed most, low water allocations for CVP contractors, challenges managing Delta salinity and early increases in reservoir releases.

The CVP provides irrigation water critical to about 3 million acres of agricultural land in the San Joaquin and Sacramento valleys and along California's central coast. The CVP also provides urban water for millions of people and industrial water essential to the San Francisco Bay Area's economy. Water from the CVP is also crucial for the environment, wildlife and fishery restoration and hydroelectric power production.

During WY 2013, CVP powerplants generated about 4.3 billion kilowatt-hours. Project use consumed about 25 percent of this energy; the remaining energy was made available for marketing. The Mid-Pacific Region's hydroelectric generators have a combined capacity of approximately 2.1 million kilowatts.

### **2014 Water Actions and Strategies**

In an effort to proactively address potentially dry conditions in WY 2014, the Mid-Pacific Region held a series of meetings with CVP water contractors, power customers, tribes, non-governmental organizations, other federal agencies and state of California agencies to facilitate open communication on the status of WY 2013 and to brainstorm additional water management strategies for WY 2014. Stakeholders were asked to provide ideas and suggestions for Reclamation's consideration in developing strategies in support of a potentially dry WY 2014.

"We began to examine operational flexibilities with our partner agencies and look at new water management strategies with stakeholders throughout California," stated Mid-Pacific Regional Director David Murillo. "I was encouraged by the collaboration and cooperation displayed by our customers and stakeholders during the meetings and impressed with their creative and wide-ranging ideas. I am pleased to announce that the resultant "Draft WY 2014 Water Plan" is now available on our region's website."

To view the "Draft WY 2014 Water Plan," which contains a complete listing of the actions and strategies, please visit [www.usbr.gov/mp/Water\\_Supply\\_Meetings/index.html](http://www.usbr.gov/mp/Water_Supply_Meetings/index.html).

As WY 2014 gets under way, Reclamation will monitor and evaluate hydrologic conditions. Reclamation will announce preliminary WY 2014 CVP water supply conditions in late January and will release the initial CVP water supply allocations a few days prior to the start of the contract year, which begins on March 1.

As WY 2014 progresses, Reclamation will adjust the allocations, as warranted, to reflect updated snowpack and runoff. Current allocations and background information are available at [www.usbr.gov/mp/pa/water](http://www.usbr.gov/mp/pa/water).

For additional storage information, please visit [www.usbr.gov/mp/cvo](http://www.usbr.gov/mp/cvo) or contact the Public Affairs Office at 916-978-5100 (TTY 800-877-8339) or email [mppublicaffairs@usbr.gov](mailto:mppublicaffairs@usbr.gov).

# # #

Reclamation is the largest wholesale water supplier and the second largest producer of hydroelectric power in the United States, with operations and facilities in the 17 Western States. Its facilities also provide substantial flood control, recreation and fish and wildlife benefits. Visit our website at <http://www.usbr.gov>.

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Bureau of Reclamation, Mid-Pacific 2800 Cottage Way, Sacramento, CA 95825 United States



**Attachments:** 2014 water plan v5.pdf; Nov 5 meeting agenda.docx; CVP status NOV 2013.pdf

Please mark your calendars for Tuesday November 5th for the next meeting. It will be held from 3-5pm.

We will bring copies of the Draft 2014 Water Plan. The Plan is being prepared based on discussions we had with all of you at the previous water year 2013/2014 meetings. Thank you to everyone who has taken the time to provide valuable suggestions and insights. The agenda will be to walk through the high points of the Plan, answer questions and discuss next steps.

**The meeting will be held at:**

2800 Cottage Way, Sacramento, 95825

Please arrive at least 20 minutes early to proceed through security. The guards can call x 5010 for pickup.

**Call-in number:**

877-████████. Participant Passcode: ██████████

Thank you - and we'll see you soon!

--

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# RECLAMATION

*Managing Water in the West*

Mid-Pacific Region

## Central Valley Project Water Plan 2014 (Draft)



U.S. Department of the Interior  
Bureau of Reclamation  
Mid-Pacific Region

November 4, 2013

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# INTRODUCTION

Low reservoir storages at the start of Water Year 2014, and the potential for continued dry hydrologic conditions into the coming water year, coupled with significant protective actions for threatened fish populations and the need to maintain adequate water quality standards under state law, could present serious water supply challenges for many parts of California. The January-May period in 2013 was the driest January-May period on record for the Central Valley; conditions remain dry with the October 2013 inflow to Shasta Lake near the lowest for any month on record; and the National Weather Service's Season Drought Project indicates persistent drought conditions for the Central Valley and Sierra Nevada for the next 90 days. For these reasons, it is imperative that Reclamation, our customers, and our stakeholders be prepared to face these challenges. The aim of the Draft 2014 Water Plan is to minimize the negative impacts to affected Central Valley Project (CVP) customers and stakeholders associated with a possible dry 2014 water year. The draft Plan is the product of Reclamation's ongoing assessment of the water supply situation and the cumulative input from the 2013/2014 water year meetings with customers and stakeholders.

The 2013/2014 water year meetings were conducted over a several week period in June 2013, and continued into early September 2013 to discuss current CVP water operations and ongoing water supply challenges. Customers and stakeholders provided items for Reclamation's consideration and we provided regular updates throughout the summer. The result was a list of suggested actions from agriculture, Municipal and Industrial (M&I), tribal, fisheries, other environmental, power and refuge interests. We were clear that this list was reflective of actions that Reclamation would consider for inclusion in the Plan; it was not a commitment to carry any particular action.

This Plan is Reclamation's attempt to identify actions based on those items suggested by our customers and stakeholders, deemed to provide the greatest potential to address adverse water supply impacts in 2014 while maintaining environmental commitments, based on:

- Resources available to carry out the action,
- The schedule necessary to achieve anticipated benefits, and
- The likelihood to achieve the expected benefits

We have developed a list of proposed actions, and associated timelines, that we anticipate can be implemented during the 2014 water year, absent changed conditions, unforeseen barriers or unanticipated circumstances, and we call these near-term. We will continue to assess and update the timeline for these projects as we define the scope and permit needs of each project. This leaves a broad array of actions that, due to limited resources, environmental and permitting pre-requisites, or other implementing difficulties, preclude implementation in the 2014 water year. Many of these items are included in the Medium Term Actions section of this document (see page 13).

The draft plan focuses on actions that are achievable, that provide operational flexibility, and that are value added to CVP operations as a whole. The actual benefits realized through these actions will be highly dependent on actual hydrologic conditions throughout the State this coming water year. As conditions change, Reclamation will continuously be reevaluating our planned actions and will adjust accordingly.

Many of the actions on the list fall into the category of operational flexibility as it relates to the existing biological opinions (BOs). The term "operational flexibility" can be defined as the ability to manage existing water supplies



## Introduction

efficiently and effectively, consistent with the project authorizations and objectives, while adapting to changes in regulatory, physical, and hydrologic conditions. Improved operational flexibility can result in, the most efficient system operation, increased water yield and increased ability to meet project needs under a range of potential conditions.

As operational flexibility relates to the incidental take levels and reasonable and prudent alternative actions in the current BOs for both the Delta smelt and salmonid species, Reclamation is working to coordinate and collaborate with the Federal resource agencies, as well as the California Departments of Fish and Wildlife (DFW) and Water Resources (DWR), to develop processes and data to identify and take advantage of any opportunities to improve operational flexibility within the BOs. Opportunities include improvements to the current processes that are used by the following interagency groups that play a role in managing real-time operations: the Smelt Working Group, the Delta Operations for

Salmonids and Sturgeon, and the Water Operations Management Team. The ultimate goal is to maximize operational flexibility, while not causing jeopardy or modification of critical habitat to Federally-listed species.

Due to other regulatory requirements outside of the BOs that can constrain Delta operations at times throughout year, the range of possible hydrological conditions and without knowing the timing and distribution of sensitive fish populations that will occur in the winter and spring, Reclamation cannot predict the actual water yield benefits of improving operational flexibility within the specific requirements of the BOs. In addition, other constraints, including State Water Resources Control Board (SWRCB) requirements for water quality, salinity, and/or Delta outflow, can be important factors that govern Delta and upstream operations. As conditions dictate, Reclamation will collaborate with other Federal and State agencies, including the SWRCB to gain concurrence on a path forward that makes the best use of limited water resources.

# NEAR-TERM ACTIONS 2014

## Operational Flexibility Within the Existing OMR

### Old and Middle River Index

Develop and implement a pilot project to test using an index rather than tidally filtered United States Geological Survey (USGS) gauge data at OMR to determine OMR negative flow.

The pilot project is planned to begin implementation in the November 2013/January 2014 timeframe and may run through periods into May. During this time Reclamation and DWR will operate to the OMR objective using an index based on San Joaquin River flow. Operations would return to use of the tidally-filtered OMR values if the difference between the tidally-filtered values and index values exceed a certain limit. This limit will be determined in cooperation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) as the plan is finalized as will allow continued compliance with the existing BOs.

### Parties Involved

Reclamation, USFWS, NMFS, DWR, State and Federal contractors and environmental stakeholders. Reclamation staff will meet to develop the proposal and work directly with USFWS staff through November 4. Once a final draft proposal is available (goal November 4), Reclamation will collaborate with NMFS, USFWS, and DWR in face-to-face meetings to finalize the proposal and begin implementation in the December 2013/January 2014 timeframe. Reclamation and DWR will consider a pilot test of the new method in November 2013, which would allow a water-neutral evaluation of the effectiveness of the method before the entrainment risk season begins.

### Timeline for Benefits to be Derived

There is some potential to realize a water benefit during the winter while the experiment is implemented from December to May.

### Benefits

From an operational standpoint, this action could result in better more predictable response to changing conditions in the Delta.

### Estimation Method Based on New Range of Years for the Adult Delta Smelt Incidental Take Statement

Develop a new cumulative salvage index calculation for determining cumulative expanded salvage, using years in addition to the existing 2006-2008 range.

### Parties Involved

State and Federal water contractors are to provide a proposal to Reclamation in October/early November 2013. Reclamation will review the proposal and provide to the USFWS for consideration. To allow for customer and stakeholder input and transparency, State and Federal water contractors will be asked to present the October proposal to environmental stakeholders. This will allow Reclamation and the USFWS to hear the environmental community's opinion on the proposal. If a proposal is developed that is acceptable to Reclamation and USFWS, the proposal would be used to calculate the incidental take limit (ITL) for Water Year 2014 in December 2013.

### Timeline for Benefits to be Derived

December 2013 - March 2014 operations.

### Benefits

If adult smelt entrainment numbers at the pumps stay below the ITL, exports would not be curtailed, and south of Delta exports would not be affected due to adult Delta smelt entrainment.

### New and Refined Turbidity Models

For predicting Delta smelt salvage, develop a model to predict turbidity conditions that lead to entrainment events, and determine the magnitude of the conditions that create a "turbidity" bridge for the Delta smelt's movement between the central Delta and the export pumps.

### ***Parties Involved***

USFWS is working closely with Metropolitan Water District (WD) and DWR as well as Reclamation and other environmental stakeholders to develop new modeling tools to predict turbidity. Weekly meetings are being held with interested stakeholders. It is expected that more refined tools (as compared to last year) will be available for use in water year 2014.

### ***Timeline for Benefits to be Derived***

Water year 2014 during the months of December through June, but especially during the winter period.

### ***Benefits***

If operations can be modified early in the season to avoid a turbidity bridge within the central and south Delta, the adult smelt could move up the Sacramento River rather than moving into the central and south Delta. This minimizes the risk of entrainment for all life stages of smelt at the pumps, therefore reducing the risk that there will be a need for pumping curtailment due to smelt presence.

The total potential improved water supply from all the operational flexibility with the existing BOs action are estimated at zero to 50,000 acre-feet.

### **San Joaquin River Restoration Program Flows – Recapture and Recirculation Plan**

Reclamation will continue to maximize opportunities to recapture and recirculate flows released for the San Joaquin River Restoration Program (Restoration Program), which includes completion of the Recapture and Recirculation Plan (R&R Plan) by the end of March 2014.

The March 2014 R&R Plan will describe the conditions under which Interim and Restoration flows (Restoration flows) would be recaptured, at the Mendota Pool, lower San Joaquin River diversions, and CVP and SWP Delta facilities. In addition, the March 2014 R&R Plan will describe the conditions under which recaptured Restoration Flows (Recirculation Water) are recirculated to the Friant Division long-term contractors (Friant Contractors) by direct delivery, exchanges, transfers, or sales to other south of Delta contractors and the refuges.

### ***Parties Involved***

Reclamation is to complete the March 2014 R&R Plan, undertake recapture actions, and assist in recirculation actions. The parties to the Settlement (Friant Contractors and NRDC) and Westside contractors are to participate in the preparation of the March 2014 R&R Plan.

Recapture and recirculation of Restoration flows is ongoing based on 2011 R&R Plan. Recirculation Water is generally allocated weekly to the Friant Contractors, on a pro-rata share, in San Luis Reservoir. Reclamation and the Friant Contractors work collaboratively to maximize the return of Recirculation Water to the Friant Contract Service area. Recirculation Water that is impractical to return is managed for exchange, transfer, or sale at the discretion of each Friant Contractor.

### ***Timeline for Benefits to be Derived***

Reclamation has been recapturing and recirculating since 2010. Reclamation prepared a draft R&R Plan in 2011, in coordination with the Friant Contractors, NRDC, and the Westside contractors. Reclamation has been operating to the draft R&R Plan and will continue to recapture and recirculate Restoration Flows consistent with the draft R&R Plan until the March 2014 R&R Plan is completed.

The March 2014 R&R Plan will address recapture of the Restoration Flows in the Delta, which is not fully addressed in the 2011 R&R Plan.

The benefits are ongoing. There are opportunities to increase benefits by increasing recapture and those opportunities are being actively pursued.

### ***Benefits***

The R&R Plan is a requirement of the Settlement and Public Law 111-11 and will describe the key conditions for recapture and recirculation. Reclamation will continue to maximize recapture and recirculation of Restoration Flows for Friant Contractors, consistent with the Settlement and Public Law 111-11. This includes working with the Friant Contractors, facility owners, and other potentially affected parties to recapture Restoration Flows at locations between the Merced River confluence and the Delta. If successful, this could increase the volume of recaptured Restoration Flows.



## Operational Flexibility

### Flexibility Agreement

Reclamation and the San Joaquin River Exchange Contractors (Exchange Contractors) entered into a Flexibility Agreement to improve San Luis Reservoir and Delta operations while allowing greater flexibility in the Exchange Contractors' contract-specified monthly delivery quantities. The exchange contractors use alternative sources of water supply (groundwater and other conserved water) early in the year to delay use of CVP surface water supplies from the Delta and San Luis Reservoir. That water can then be used to meet demands of other CVP contractors.

### Parties Involved

San Joaquin River Exchange Contractors and Reclamation.

### Timeline for Benefits to be Derived

Annual benefits obtained during the early and peak irrigation season for both the San Joaquin River Exchange Contractors and CVP south-of-Delta water contractors.

### Benefits

Potentially provides up to 10,000 acre-feet for delivery to CVP water service contractors on the west side of the San Joaquin Valley during early and peak irrigation. It is not an increase in supply, but a demand shift providing flexibility in deliveries.

## Water Transfers

### Streamline Water Transfer Approval Process

Further streamline Reclamation's process for final approval of water transfers process by providing an e-Brochure package and tracking tool.

The e-Brochure outlines the process and considerations that each Reclamation office typically uses for final processing of approved transfer proposals once it is determined that a transfer action can be accommodated operationally. The e-Brochure is sectionalized by office and each section includes a number of elements such as points of contact, timelines, and a progress monitoring system. The e-Brochure is being constructed with on-line capability so that

information and status can be viewed 24 hours a day. Reclamation is available to meet with customers regarding any specific proposal, issue, or suggested improvement to the water transfer approval process.

Reclamation currently has a number of programmatic transfer programs for which we have National Environmental Policy Act (NEPA) coverage and provide an accelerated process for handling transfers analyzed. These accelerated water transfer programs cover within basin transfers and programs such as the 25-year transfer program with the San Joaquin Exchange Contractors. We have also approved banking arrangements with some districts on a multi-year basis which involve water transfers/exchanges with local water banks. Reclamation anticipates completing the environmental document for a 10-year North to South Transfer Program in time for the summer of 2015 and is currently contemplating a North to North programmatic document to cover transfers between North of Delta Water Service Contractors and Sacramento River Settlement Contractors having non-project base supplies which are typically available for transfer and are not covered under existing accelerated programs. A 1-year North to South Water Transfer Program is being developed for the 2014 water year.

Reclamation will also continue to coordinate with the State and cooperate with our contractors to support improvements to transfer programs that require DWR involvement and/or approval by the State Water Resources Control Board (SWRCB).

### Parties Involved

Reclamation, DWR, San Luis & Delta-Mendota Water Authority (SLDMWA), SWRCB, and various water transfer buyers and sellers, on a year-round basis.

Reclamation will engage State agencies, CVP contractors and State Water Project (SWP) contractors to identify bottlenecks to transfers, improve processing, and eliminate duplication of effort.

### Timeline for Benefits to be Derived

The water year 2014 transfer window for north to south is July-September 2014, and will apply to the 1-year program. The transfer window for north to north and east to west is year-round since

## Near-Term Actions 2014

these transfers do not involve Delta pumping to accomplish.

### **Benefits**

This action would not generate additional CVP water supply, but would provide for a voluntary redistribution of CVP supplies and non-CVP available supplies. As in 2013, south of Delta CVP water service contractors could receive over 150,000 acre-feet of additional water due to transfers from other sources. On a case-by-case basis some transfers and or conveyance of CVP and/or non-CVP supplies may improve operational flexibility.

### **Use of Warren Act Contracts to Facilitate Water Supplies**

Investigate use of CVP storage and/or conveyance to facilitate approved water transfers by working directly with transferring partners to consider whether such a request could be met without harming other CVP purposes or operations. Please see #10 for additional information on the topic of water transfer approvals.

### **Parties Involved**

Depends on the transferring parties; generally a non-CVP source to a CVP contractor.

### **Timeline for Benefits to be Derived**

Benefits would likely be provided during the Delta transfer pumping window July-September 2014 however, this depends on the availability of CVP facilities and the nature and timing of a proposed water transfer action.

### **Benefits**

Dependent on number, quantity, timing, and location of the various transfers. Supply quantities for valid transfers could come at the expense of non-CVP water user supplies. Transfer amount will be dependent on the number, quantity, timing, and location of the various actions, and could range from 0 to 20,000 acre-feet. If coordinated and timed correctly, transfer flows could provide some flexibility and support for in-stream flows, cold-water pool, and/or reservoir storage.

## Refuges and Fisheries

### **Lower Klamath River Fall Flows for Fall-run Chinook Salmon**

Develop a plan for the long-term protection of the fishery resources.

Reclamation released flows for augmentation in the fall of 2012 and 2013, the impacts of which have yet to be addressed. In 2012, a total volume of 39,000 acre-feet was released and approximately 17,500 acre-feet was released in 2013. A long-term strategy implementable by the fall of 2014 is being developed, including a draft proposal for a long-term plan which will be developed by the end of calendar year 2013.

### **Parties Involved**

Reclamation will coordinate with the Hoopa Valley Tribe, Yurok Tribe, USFWS, DFW, environmental stakeholders, and CVP water and power users in developing the augmentation regime and identifying impacts. Reclamation will engage further with all parties as the draft plan is refined.

### **Timeline for Benefits to be Derived**

The benefits are derived in August of September during years when flow augmentation is determined necessary in accordance with criteria developed under Reclamation and USFWS guidance in 2012.

### **Benefits**

Flow augmentation provided from Trinity Reservoir would be expected to increase flows and decrease water temperatures in the lower Klamath River while the fall-run Chinook salmon are migrating in the Klamath River. In turn, these fish should experience less physiological stress and vulnerability to disease. Increased volume and water turn over rates will allow for lower fish densities and help disrupt the potential spread of disease. There will also be a minor increase in coho salmon rearing habitat in the Trinity River during the augmentation period.

The advantage of having an LTP in place will allow for broader stakeholder input and vetting of operational responses. It will also hopefully reduce conflicts and lead to better overall resource management.

### **Refuge Water Supply**

Implement activities such as shifted demand scheduling, reallocation of Level 2 supplies to other refuges, and supply flexibility options that are strategically prioritized, to improve coordinated management of refuge water supplies and lessen impacts to other water users.

### **Demand Scheduling**

Reclamation is addressing demand scheduling through its work on the Action for Golden Gate Salmon Association Projects (see page 10). (On a regional basis, work with various water users and diverters to forecast water demands in an effort to better project and schedule reservoir releases, operational flexibility, and pumping and canal capacities.)

### **Reallocation of Level 2**

Article 7 of the refuge water supply contracts, “Transfers, Reallocations or Exchanges of Water”, forms the basis for this action. It states that, “Subject to the prior written approval of the Contracting Officer, the Project Water made available under this Contract may be transferred, reallocated or exchanged in that Year to other Refuge(s) or Project contractors if such transfer, reallocation or exchange is requested by the Contractor and is authorized by applicable Federal and California State laws, and then-current applicable guidelines or regulations.” Reclamation is working with the refuges to help manage refuge Level 2 supplies and allow reallocation of Level 2 refuge water between and among refuges. Such reallocations have occurred for the past 8 years. Additionally, Level 2 diversification opportunities, which can provide mutual benefits to refuges and agricultural water service contractors, are being pursued.

### **Supply Flexibility Options**

Reclamation has engaged a broad group of CVP water contractors, refuge interests and NGO’s, in a Stakeholder Technical Team (STT) and a Policy Team to address development of strategies and

actions that are needed to increase water supply reliability for all CVP SOD water users, including wildlife refuges. A project which the STT identified as being appropriate for action within the 2014 water year is:

- Groundwater Acquisition Program for ARRA-funded Wells

See the Medium-Term Actions section of this Plan for additional projects.

### **Parties Involved**

#### **Reallocation of Level 2**

Reclamation, USFWS, DFG, and Grassland WD.

#### **Supply Flexibility Options**

Groundwater Acquisition Program for ARRA-funded Wells: Grasslands Water District, San Luis Delta-Mendota Water Authority, Reclamation

### **Timeline for Benefits to be Derived**

#### **Reallocation of Level 2**

Benefits to the refuges could be realized throughout the year.

#### **Supply Flexibility Options**

Groundwater Acquisition Program for ARRA-funded Wells: These wells are in place and are expected to be operational in WY2014 and will provide up to 5000 acre-feet of Level 2 water freeing up an equivalent amount in San Luis Reservoir for agricultural contractors. Another 5,000 acre-feet would go to meet Incremental 4 requirements.

### **Benefits**

#### **Reallocation of Level 2**

The amount of water that can be reallocated varies widely from year-to-year, as do costs of conveyance which is dependent upon location of donor and receiving refuges.

#### **Supply Flexibility Options**

ARRA groundwater wells are projected to yield 5,000 acre-feet of Level 2 water and 5,000 acre-feet of Incremental Level 4. Level 2 water produced frees up an equivalent amount of surface water in San Luis Reservoir for agricultural contractors.

## Golden Gate Salmon Association (GGSA) Projects

Implement the following projects in water year 2014:

- A.1 – Delta Cross Channel Electrical Barrier: Exploration and, if reasonable, installation of an experimental temporary low voltage graduated electrical barrier near Dead Horse Island to deter Mokelumne River fall-run Chinook salmon from straying into the Sacramento river through the Delta Cross Channel;
- B.1 – Sacramento River Gravel Augmentation: creation of spawning and rearing habitat on the Upper Sacramento River for juvenile Chinook salmon and steelhead;
- B.9 – Sacramento River Flows – coordination of fish and river releases and diversions to improve the migration on juvenile Chinook salmon;
- B.10 – Painter’s Riffle – repairs of an engineered side channel near Redding to provide spawning habitat for Chinook salmon and steelhead.

### **Parties Involved**

Parties are involved as part of the project team in the development of the plans and review of documents. Participants include the: DFW, DWR, East Bay Municipal Utility District, NMFS, Reclamation District 108, SWRCB, Reclamation, and USFWS.

### **Timeline for Benefits to be Derived**

Benefits would begin with implementation of the projects in 2014 and we would expect to see increased returns of Chinook salmon and steelhead in 2 to 3 years following successful completion of their lifecycle.

### **Benefits**

- A.1 – Primary benefits include Mokelumne River natural and hatchery production and the maintenance of Sacramento Basin salmon genetics. Secondary benefits include potential water quality improvements in the South Delta and a reduced need for operation of the Delta Cross Channel Gates.

- B.1 – Primary benefits include increased spawning and rearing habitat to address factors limiting the natural production of adult anadromous fish in the Upper Sacramento River.
- B.9 – Primary benefits would include higher survival for Sacramento Basin fish as a result of improved water temperatures, expanded habitat, and reduced predation. The project may identify potential water supply benefits as well.
- B.10 – Primary benefits are increased spawning and rearing habitat in the Upper Sacramento River.

## Coordination

### **Coordination and Forecasting**

On a regional basis, intensify coordination of operations with the various river diverters, water districts, hatchery operators and the other system operators listed below to best forecast operations and water demands in an effort to improve operational flexibility and delivery efficiency.

### **Parties Involved**

Sacramento River Settlement Contractors, San Joaquin River Exchange Contractors, City of Sacramento, DWR, other non-CVP reservoir operators, and various sets of CVP contractors – Tehama Colusa Canal Authority (TCCA), SLDMWA, American River Contractors, Friant Water Users, Refuge Managers, and environmental stakeholders.

### **Timeline for Benefits to be Derived**

Initially in water year 2014, then a continuous and ongoing effort.

### **Benefits**

This action would result in little to no increase to net supply but will increase operational efficiency.

### **Improve Hatchery Operational Coordination with North of Delta Diverters**

Develop and implement a plan for better coordination of hatchery fish releases to coincide with adequate natural flows or other operational releases, which would reduce the need for specific



release of stored water as a separate effort for the hatcheries.

### ***Timeline for Benefits to be Derived***

Benefits would occur concurrent with the action and would result in improved number of adult salmon in 2 to 3 years as a result of more successful migration.

### ***Benefits***

Benefits include improved numbers of adult salmon and a more efficient water operation.

### **Folsom Intake Protection**

Should dry conditions persist over the winter, meet with American River stakeholders to discuss options for meeting minimal river flows for fisheries and downstream diversion while ensuring the Folsom M&I intake remains operational, and if needed install a temporary pump system.

### ***Parties Involved***

Planning/Scope development – Final plan including scope, authorities and identification of any cost share arrangement by December 1, 2013. Reclamation, San Juan Water District, Cities of Roseville and Folsom Fall/Winter 2014.

### ***Timeline for Benefits to be Derived***

Likely time frame for alternative pumping to provide benefits would be Sep – Nov 2014

### **Relief from Water Quality Objectives**

Promptly identify opportunities to collaborate to propose, review and approve temporary amendments to water quality objectives or to move compliance points in order to avoid disproportionate impacts through continued Reclamation forecasting and prompt inter and intra agency coordination and communication. Reclamation will effectively coordinate with DWR, the State Water Project (SWP) and CVP contractors, the State and Federal fishery agencies, and the SWRCB, at a minimum. The goal is to reduce disproportionately high water supply impact or shift a significant fishery concern or water supply impact to another part of the system.

Reclamation will continue to assess hydrological and operational conditions and coordinate

with the appropriate agencies and stakeholders. Coordination will occur at regular CALFED Ops meetings with additional meetings and briefings as needed.

### ***Parties Involved***

Reclamation, DWR, DFW, USFWS, NMFS, the SWRCB, the SWP and CVP contractors, environmental organizations, and any other effected parties.

### ***Timeline for Benefits to be Derived***

October through May, if an opportunity presents itself and the SWRCB approves some change.

### ***Benefits***

Benefit to supplies will depend on the water quality objective modified and actual conditions. Modification to water quality standards usually result in tradeoffs among beneficial uses, but there may be up to tens of thousands of additional acre-feet generated. This may be in reservoir storage or additional supply for consumptive use. May range from zero to tens of thousands of acre-feet.

## **Water Acquisitions**

### **Acquire Non-CVP Water for CVP Purposes**

Reclamation will actively pursue water acquisitions, exchanges and transfers to augment CVP water supplies for agricultural, refuge, in-stream and other purposes. Emphasis will be given to proposals designed to meet multiple purposes and objectives.

One example of a dual purpose acquisition is Reclamation's proposed acquisition of up to 10,000 acre-feet of water from Merced Irrigation District (Merced ID) between November 2013 and February 2014 to augment fall pulse flows and winter base flows to benefit Chinook salmon spawning and rearing habitat in the Merced River. This water is also being acquired to provide refuge Level 2 diversification water and incremental Level 4 refuge supply in the proportion of 90 percent and 10 percent, respectively, of the water conveyed through Patterson Irrigation District's distribution system to the Delta-Mendota Canal (DMC).

## Near-Term Actions 2014

### **Parties Involved**

For the currently proposed water acquisition, Reclamation intends to enter into an amendment to an existing agreement with Merced ID by mid-November. Reclamation also intends to enter into a conveyance agreement with Patterson Irrigation District. The scheduling of water will be coordinated with the USFWS to optimize fish benefits within the constraints of the proposed acquisition. Since 90 percent of the water conveyed will be for refuge Level 2 diversification purposes, a like amount of water will be freed up for South-of-Delta (SOD) CVP contractors.

### **Timeline for Benefits to be Derived**

For the currently proposed water acquisition, water will be acquired between November 1, 2013, and March 1, 2014. Fish benefits will accrue in the months of November and December by enhancing fall-run Chinook salmon spawning habitat in the Merced River. Water acquired in January and February will provide fry rearing benefits for fall-run Chinook salmon in the Merced River. Agricultural, M&I and refuge benefits will accrue from November 2013 through March 2014 as water is diverted to the DMC via Patterson Irrigation District to the DMC.

### **Benefits**

Approximately 10,000 acre-feet of water is planned for acquisition, with additional quantities possibly available depending on the hydrology, degree of benefits, and pumping capability. All of this water will provide in-stream flow benefits to fish. Of the water that can be conveyed to the DMC via Patterson Irrigation District, 90 percent will provide benefits to SOD CVP contractors and 10 percent will be delivered to SOD refuges as incremental Level 4 water supply.

### **Component 1 (C1) Water**

Acquire C1 Water from Yuba County Water Agency (YCWA) for Project use.

### **Parties Involved**

DWR and YCWA.

### **Timeline for Benefits to be Derived**

July through September 2014.

### **Benefits**

Under current agreement, the 60,000 acre-feet is split between the SWP and CVP as project flow/supplies. After system losses, the CVP may receive approximately 21,000 acre-feet.

<b>Water Year 2014 Estimated Benefit for Near-Term Action Categories</b>	
<b>Action Category</b>	<b>Estimated Benefit</b>
Operational Flexibility within the Existing Biological Opinions	Up to 50,000 acre-feet Old and Middle River Index; Estimation Method Based on New Range of Year for the Adult Delta Smelt Incidental Take Statement; and New and Refined Turbidity Models
Operational Flexibility	Up to 10,000 acre-feet Flexibility Agreement
Water Transfers	Up to 170,000 acre-feet Streamline Water Transfer Approval Process; and Use of Warren Act Contracts to Facilitate Water Supplies
Refuges and Fisheries	Up to 5,000 acre-feet ARRA Funded Wells
Water Acquisitions	Up to 31,000 acre-feet Acquire Non-CVP Water for CVP Purposes, and Component (C1) Water
Total Estimated Benefits	Up to 266,000 acre-feet

# MEDIUM-TERM ACTIONS (BEYOND WATER YEAR 2014)

## Refuges and Fisheries

### Refuge Water Supply

#### **Supply Flexibility Options**

Reclamation has engaged a broad group of CVP water contractors, refuge interests and NGO's, in a Stakeholder Technical Team (STT) and a Policy Team to address development of strategies and actions that are needed to increase water supply reliability for all CVP SOD water users, including wildlife refuges. Project which the STT identified as being appropriate for action within the next 3 years are:

- North Grasslands Water Conservation and Water Quality Control Project
- Los Banos Creek Water Resource Implementation Plan

#### **Parties Involved**

North Grasslands: Grassland Water District, San Luis Water District (funding) & Reclamation

Los Banos Creek Water Resource Implementation Plan: Exchange Contractors, Grassland Water District, San Luis Water District, City of Los Banos, and potentially others.

#### **Timeline for Benefits to be Derived**

North Grasslands: If funded, this project could start in 2014 and would take 2 years to complete. Water benefits are estimated at 15,000 acre-feet depending on allocation, but would not be realized until at least 2015.

Los Banos Creek Water Resource Implementation Plan: Features of this proposed project could be constructed in FY2014 and according to project proponents, operational in 2014. Water benefits would only be realized if hydrology allows water from Los Banos Detention Dam to be utilized.

#### **Benefits and Costs**

North Grasslands: The North Grasslands Conservation and Water Quality Control Project is estimated to provide 15,000 acre-feet of water to meet refuge needs at a cost of \$45 per acre-foot. Construction costs are estimated at \$6.2 million, but may be funded in whole or part by San Luis Water District in return for a portion of water conserved. Construction is projected to take 2 years, so no water benefits would accrue in 2014.

Los Banos Creek Water Resource Implementation Plan: Los Banos Creek project could develop up to 15,600 acre-feet of additional water, increasing refuge supplies on average by 2,788 acre-feet per year and SOD agricultural contract supplies by 3,612 acre-feet per year.

#### **Golden Gate Salmon Association (GGSA) Projects**

Implement the following projects over the next couple of years:

- B.9(b) - Sacramento River Temperature Facilities: investigations of structural improvements to Shasta and Whiskeytown to increase cold water availability.
- B.11 - Sacramento River Stranding: smoothing of releases from Keswick during the month of October to reduce incidences of redds in locations that will later desiccate through coordination of rice decomposition diversions.

#### **Parties Involved**

Parties are involved as part of the project team in the development of the plans and review of documents. Participants include the: DFW, DWR, East Bay Municipal, NMFS, Reclamation District 108, SWRCB, Reclamation, and USFWS.

## Medium-Term Actions (Beyond Water Year 2014)

### ***Timeline for Benefits to be Derived***

Benefits would begin with implementation of the projects and we would expect to see increased returns of Chinook salmon and steelhead in 2 to 3 years following successful completion of their lifecycle.

- B.9(b) – Primary benefits would include improved water temperatures, increased flexibility in reservoir management, and potentially improved water supply.
- B.11 – Project fishery benefits accrue to fall-run Chinook salmon in years where conditions allow for changes to Keswick Dam operations (approximately 2 out of every 3 years on average). There may be some small benefits with increased storage in Shasta Reservoir.

## **Coordination**

### **Rice Straw Decomposition**

Work with north of Delta water district and land managers to better coordinate river diversions for their rice decomposition water needs and alternatives methods to rice decomposition as a way to conserve water supplies. Reclamation is considering an appraisal level review of this concept in order to investigate its viability (magnitude, cost, authorities, environmental impacts, etc.), identify next steps and who would be in charge of the effort. The timeline needed to implement this action precludes an action in the immediate future. One proposal that arose during water year 2013 was the possibility of formulating a pilot program to evaluate the long-term viability of a rotation program to mix decomposition with mechanical means.

### ***Parties Involved***

North of Delta water district and land managers, GCID, possibly other Sacramento River Settlement Contractors, and the University of California Davis School of Agriculture and Environmental Sciences, and environmental stakeholders.

### ***Timeline for Benefits to be Derived***

Supply benefits and potential operational flexibility would be immediate once the scope of a pilot program is formulated.

### ***Benefits***

From an operational flexibility standpoint this would likely result in water backed up into storage at Shasta. The quantity is uncertain, possibly 10,000 acre-feet during a pilot project.

## **Operational Flexibility with the Existing Biological Opinions**

### **Population Dynamics Modeling to Revise Adult Delta Smelt Incidental Take Statement**

Develop a life cycle model that would allow the incidental take limit (as defined in the incidental take statement from the 2008 BO) to be determined by the use of population dynamics instead of entrainment at the pumps.

### ***Parties Involved***

USFWS is the lead agency developing the model. Reclamation and DFW will be collaborators. Additionally Federal and State water contractors and environmental stakeholders will be asked to participate. Efforts have been initiated and are expected to continue through 2015.

### ***Timeline for Benefits to be Derived***

A final peer reviewed model is planned for implementation in 2015 and will be used in the December and March timeframe.

### ***Benefits***

Improved ability to assess risk to the species, shifting the focus from salvage at pumps to entrainment effects as a fraction of the actual population.

### **Salmonid Genetic Testing**

Opportunities may exist to improve genetic testing of salmonids salvaged at the Tracy Fish Facility. Genetic evaluation is part of the Term and Condition 2a of the 2009 NMFS BO. Including genetic information in the loss equation could increase the accuracy in estimating annual and season loss estimates of different evolutionarily significant units of Chinook salmon.

### ***Parties Involved (and when)***

Reclamation, NMFS, Federal and State water contractors, and environmental stakeholders. Once Reclamation has an awarded contract, efforts



can begin to collaborate with agency staff and interested stakeholders.

***Timeline for Benefits to be Derived***

Expect some improvement of genetic efforts at facilities in 2015.

***Benefits***

Could allow for less more reliable water deliveries to south of Delta contractors and have reliable protection of targeted fish species.

**Water Transfers**

**Long-term Water Transfer Process**

Reclamation will continue preparing the long term Environmental Impact Statement (EIS) that is scheduled for a draft to be released in the fall of 2014. Reclamation and the SLDMWA are preparing a joint EIS/Environmental Impact Report (EIR) to analyze the effects of water transfers from water agencies in northern California to water agencies south of the Sacramento-San Joaquin Delta (Delta) and in the San Francisco Bay Area (Bay Area).

***Parties Involved***

Reclamation is the NEPA lead. SLDMWA is the California Environmental Quality Act (CEQA) lead. USFWS will need to complete Section 7 consultation in 2014. DWR is a Responsible Agency under CEQA.

***Timeline for Benefits to be Derived***

Transfers would occur over a ten-year period: 2015-2025.

***Benefits***

Benefits will go to the participating buyer and seller agencies within the Long-Term Water Transfer program. The “up to” amount of transfer water that could be made available in any year is approximately 473,000 acre-feet. However, it is unlikely that this amount of water could be transferred in any year due to Delta regulatory and other constraints.

**San Joaquin River I:E Experiment**

Determine appropriate experiments to evaluate fish movements as a result of I:E ratio requirements from the NMFS BO, using steelhead survival study results information.

***Parties Involved***

South Delta Salmonid Research Collaborative (SDSRC) working group including USFWS, NMFS, Reclamation, DWR, DFW as well as Federal and State water contractors and environmental stakeholders. The SDSRC workgroup continues to meet at least every two weeks to develop new treatments that can be initiated in the future.

***Timeline for Benefits to be Derived***

Implement new treatments possibly as early as March 2014 to develop new information regarding steelhead survival and migration habits through the south Delta past Chipp’s Island.

***Benefits***

Increased scientific information will improve management flexibility in the south Delta in future years.

**November 5, 2013**

## **Water Year 2014 Meeting Agenda**

Room W-2617B (FWS Conference Room)  
2800 Cottage Way  
Sacramento, CA 95825

Call in number: 877- [REDACTED]

Participant Passcode: [REDACTED]

### **Purpose:**

Update on current hydrologic conditions and roll out of Reclamation's Draft 2014 Water Plan.

1. Welcome and Introductions
2. Update on Water Operations
3. Review Reclamation's Draft 2014 Water Plan

Copies of the Plan will be available at the meeting and posted one hour prior to the meeting at: [http://www.usbr.gov/mp/Waters\\_Supply\\_Meetings/index.html](http://www.usbr.gov/mp/Waters_Supply_Meetings/index.html)

4. Comments and Questions
5. Next Steps

# RECLAMATION

*Managing Water in the West*

## Central Valley Project

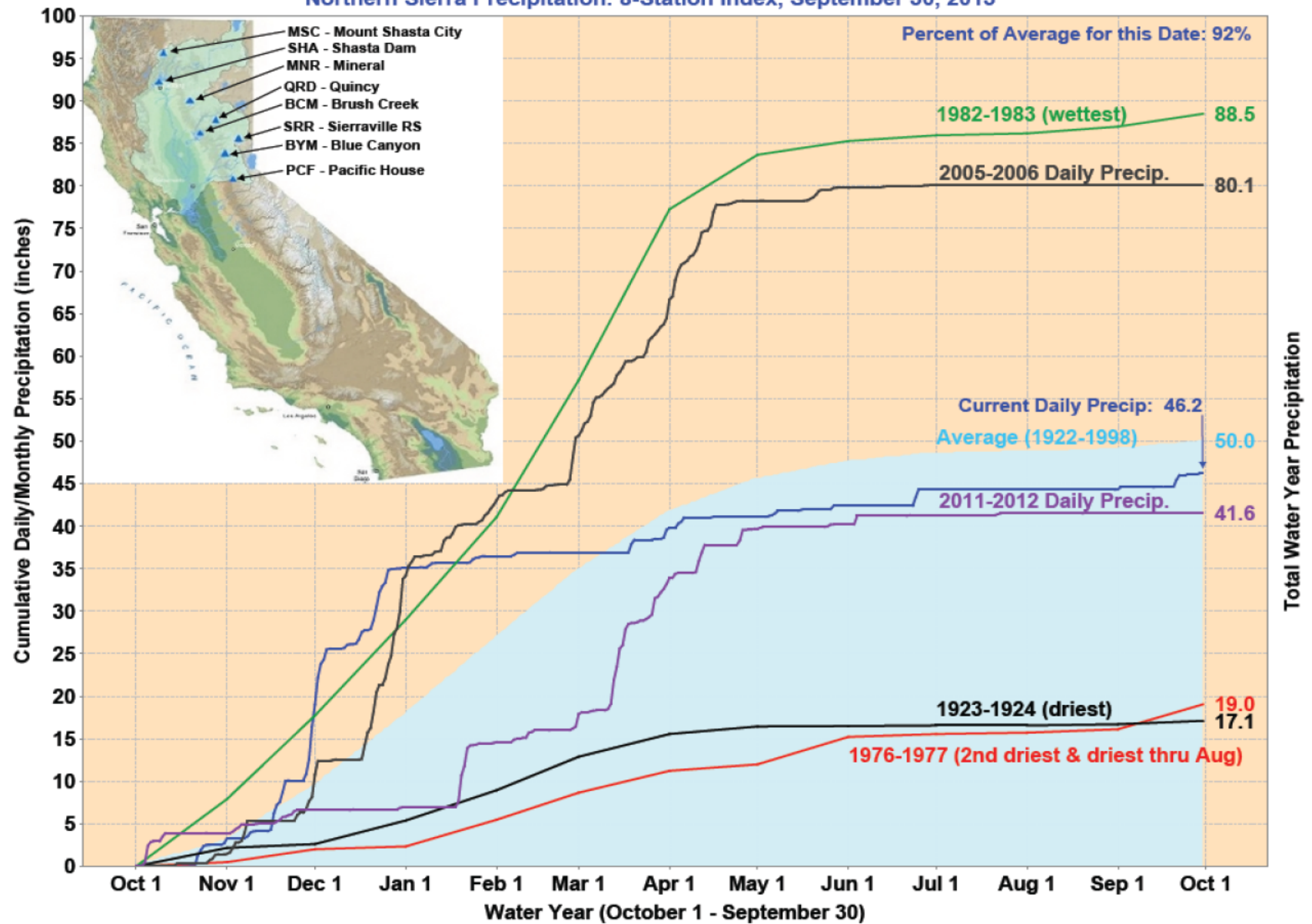
## WY 2014 Status

November 2013



U.S. Department of the Interior  
Bureau of Reclamation

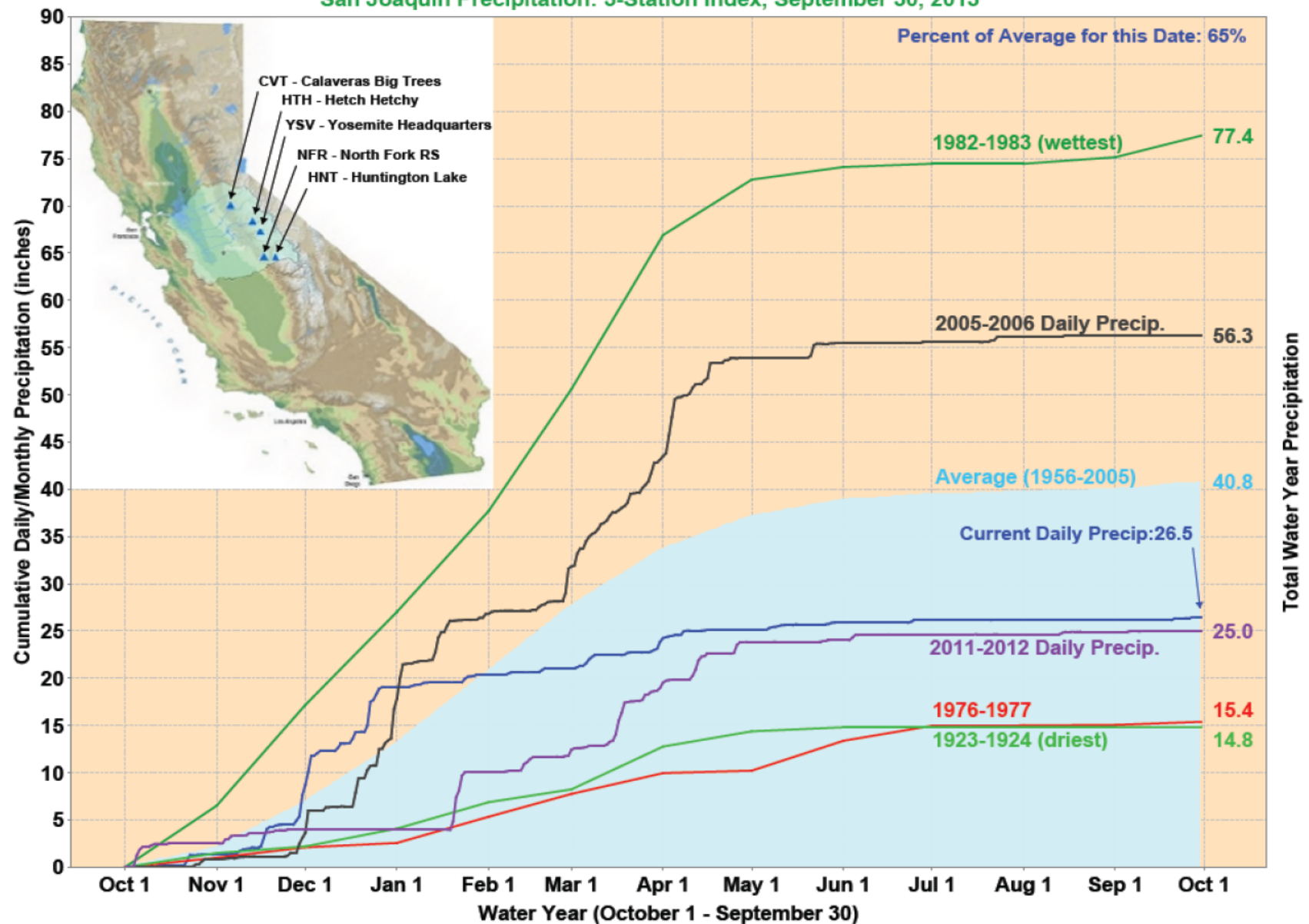
# Northern Sierra Precipitation: 8-Station Index, September 30, 2013



# RECLAMATION

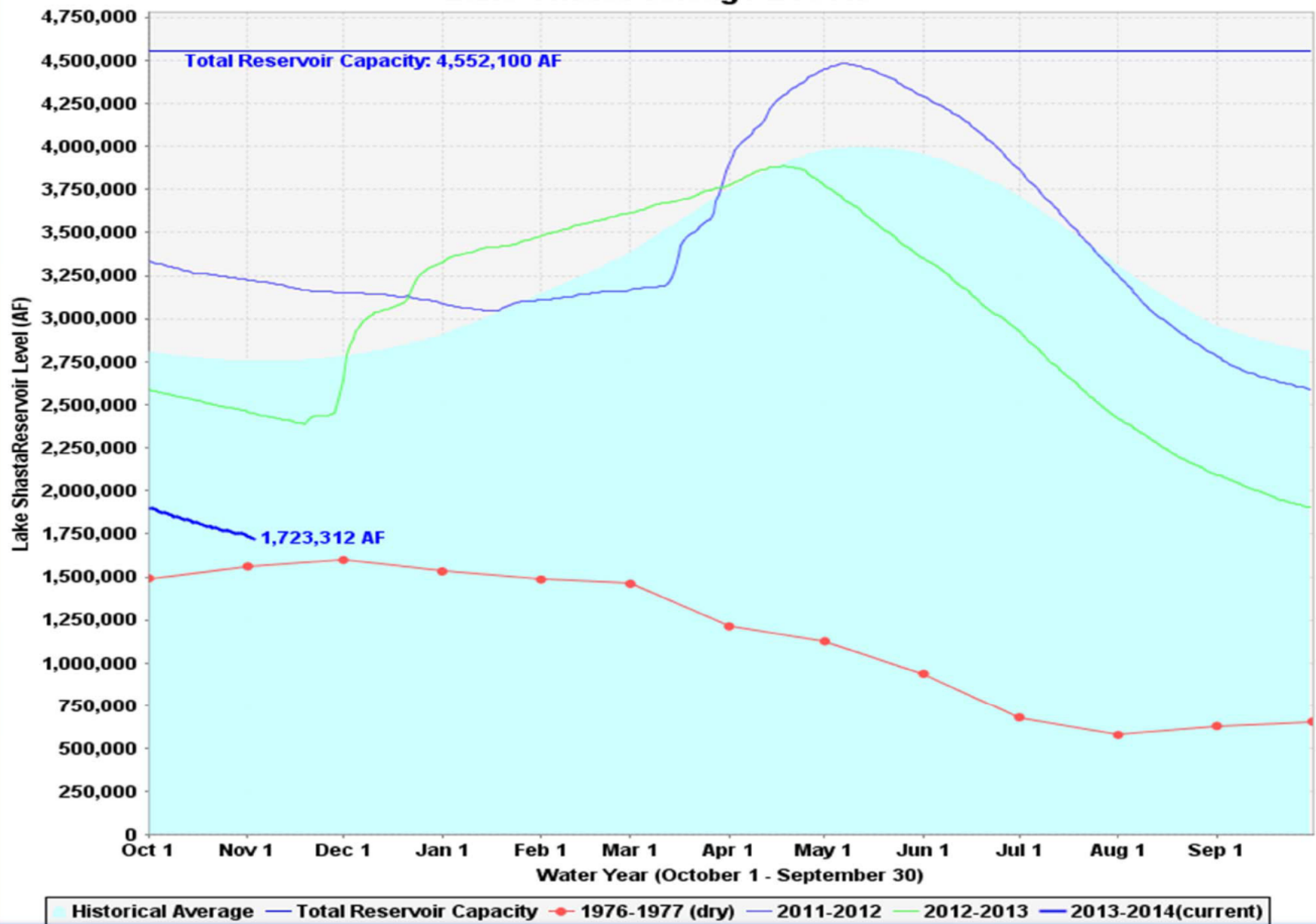


# San Joaquin Precipitation: 5-Station Index, September 30, 2013



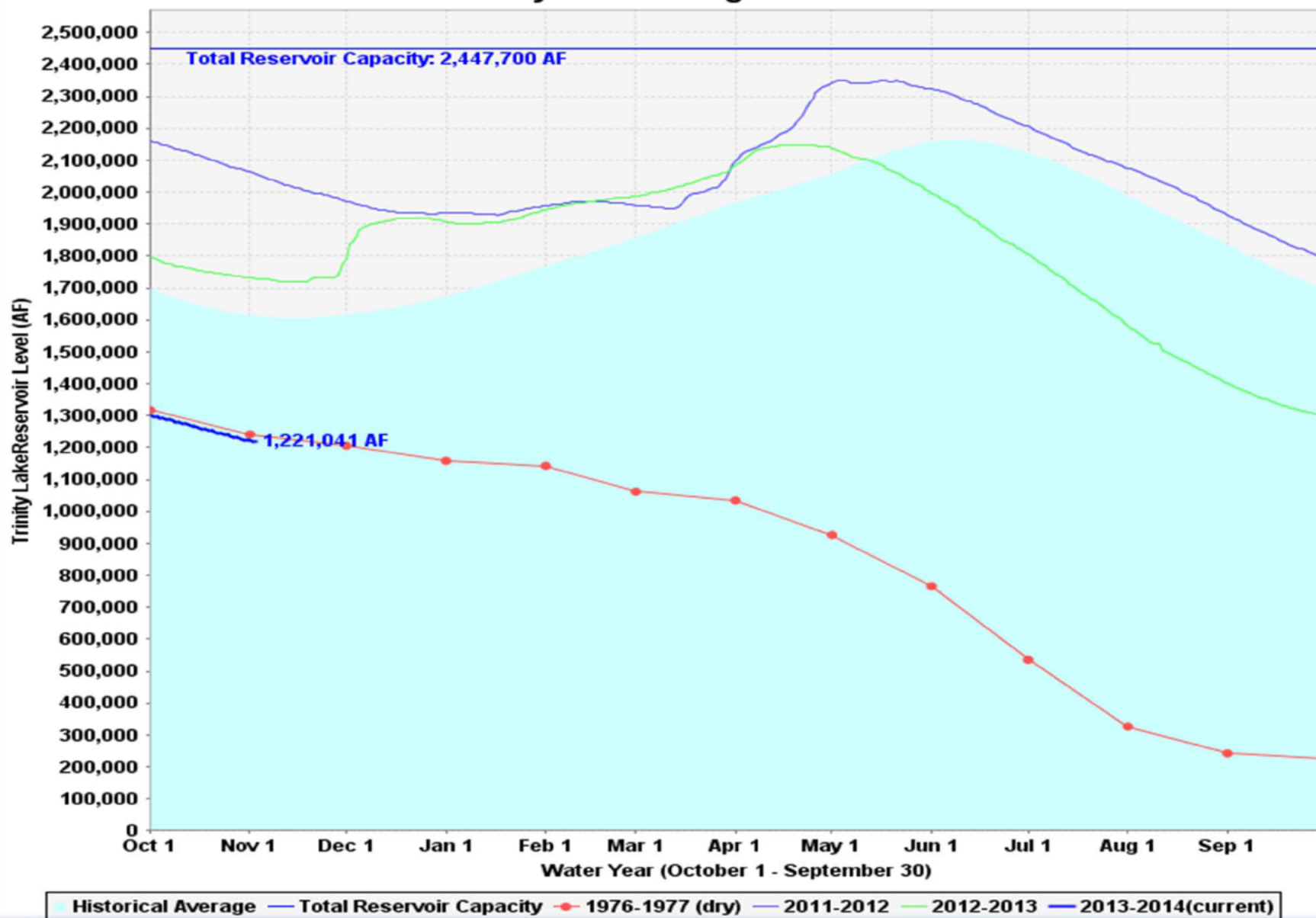
# RECLAMATION

## Lake Shasta Storage Levels



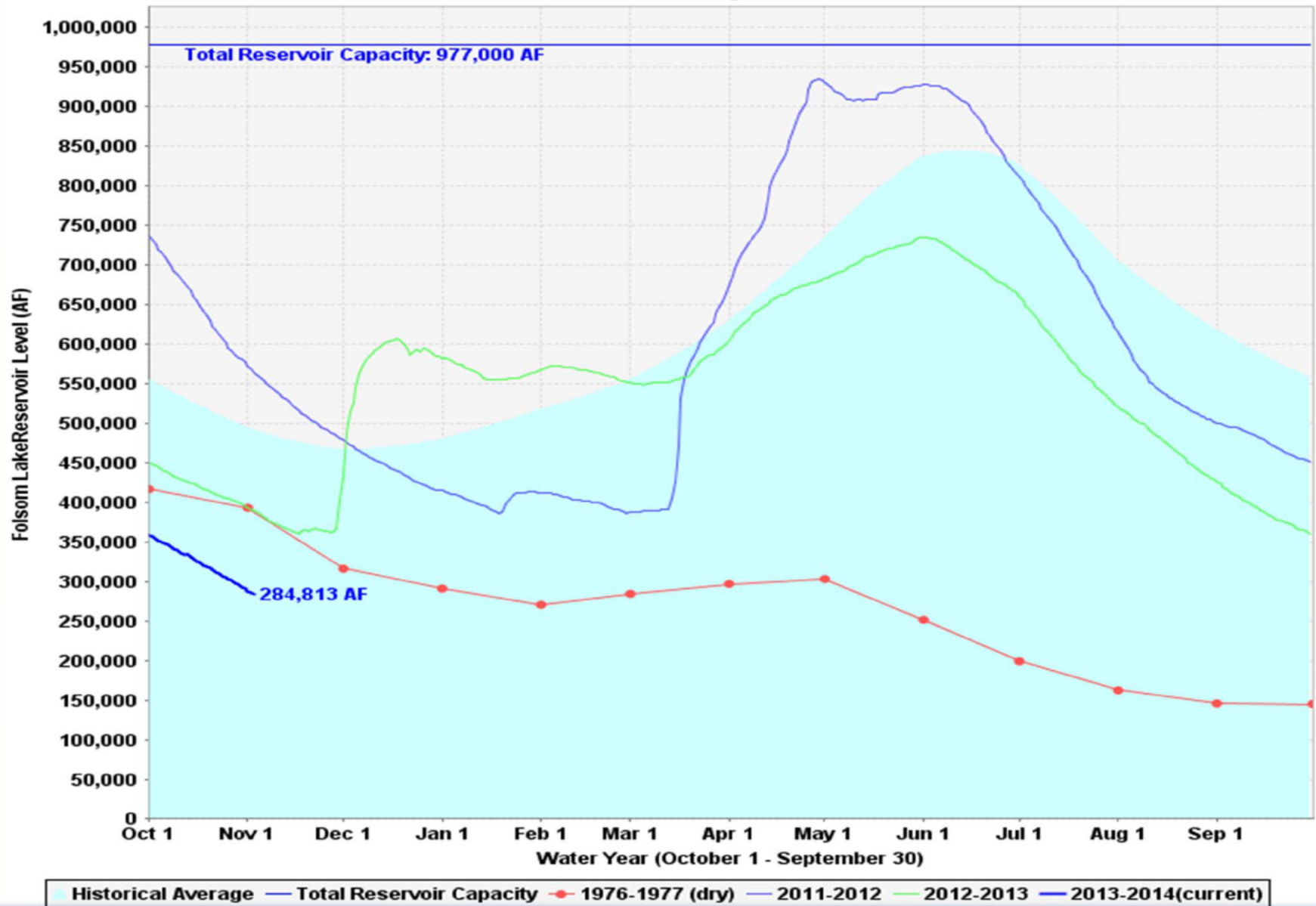
# RECLAMATION

## Trinity Lake Storage Levels



# RECLAMATION

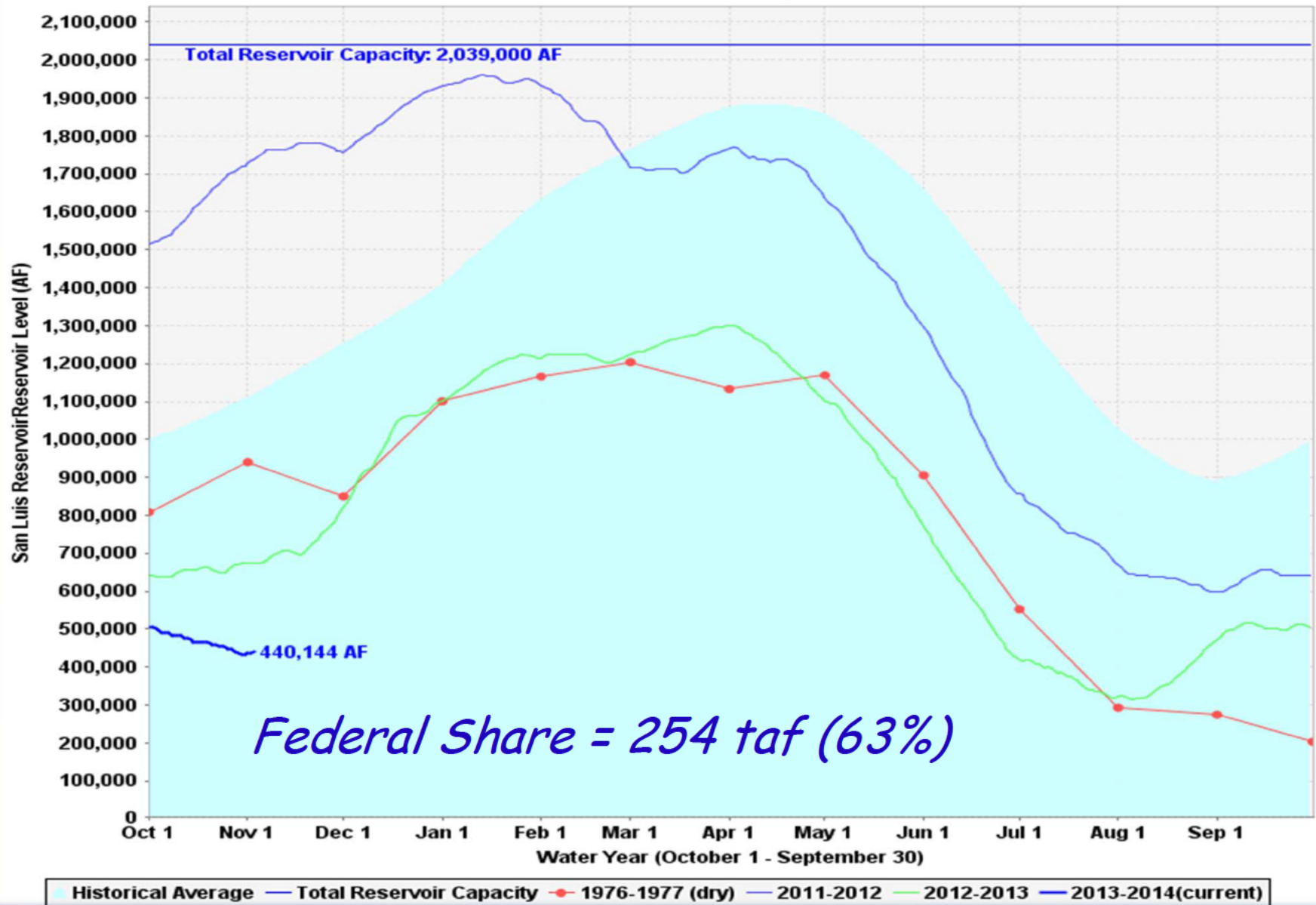
## Folsom Lake Storage Levels



# RECLAMATION



## San Luis Reservoir Storage Levels



# RECLAMATION

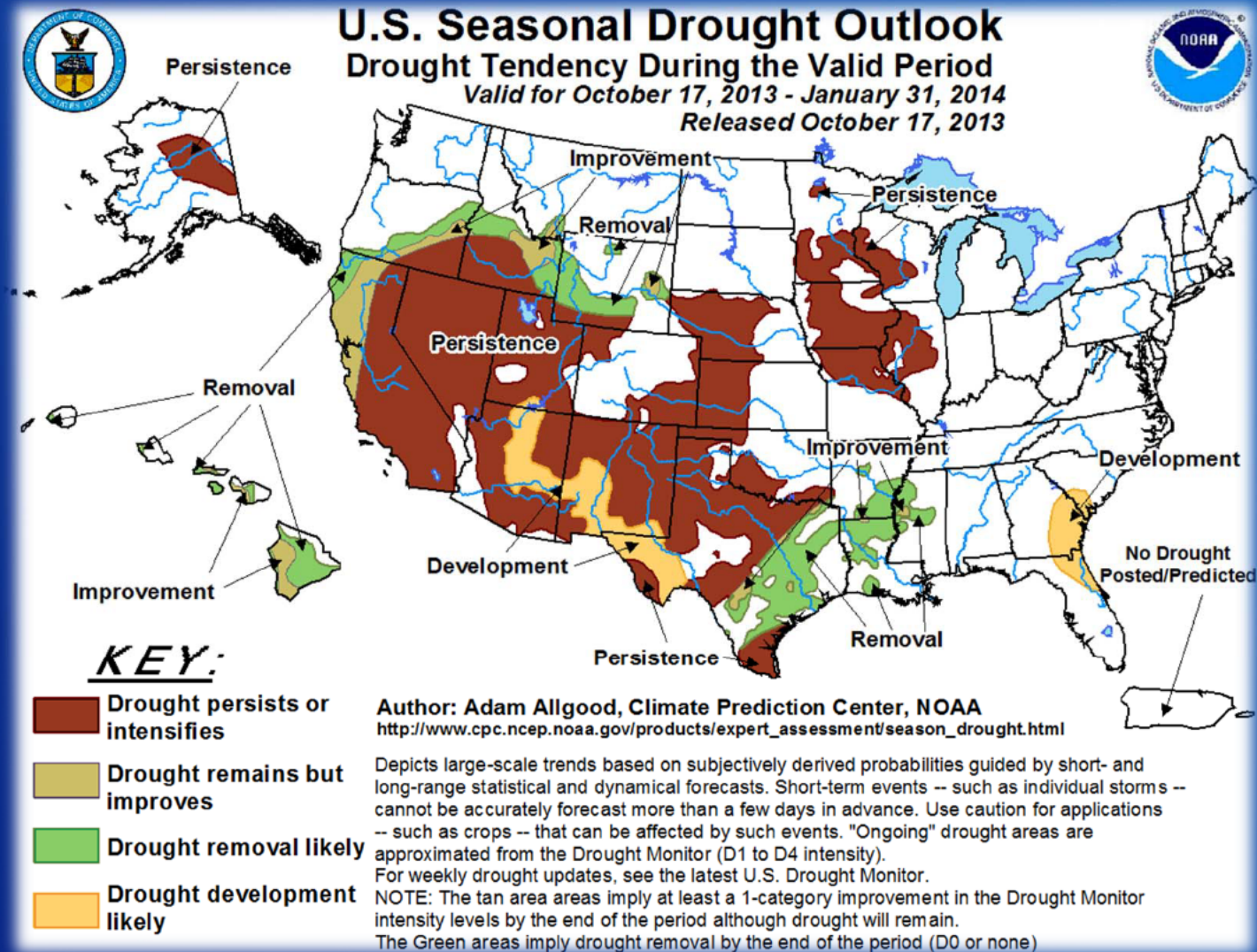
# WY 2014 Reservoir Storage

	<b>Current 3 November (acre-feet)</b>	<b>End of December “90%” Forecast (acre-feet)</b>	<b>Average End of December (acre-feet)</b>
Trinity	1.2 m (80%*)	1.2 m (75%)	1.6 m
Shasta	1.7 m (69%)	1.7 m (60%)	2.9 m
Folsom	285 k (65%)	230 k (50%)	450 k
New Melones	1.0 m (69%)	1.0 m (60%)	1.6 m

\* (percent of average for that date)

RECLAMATION

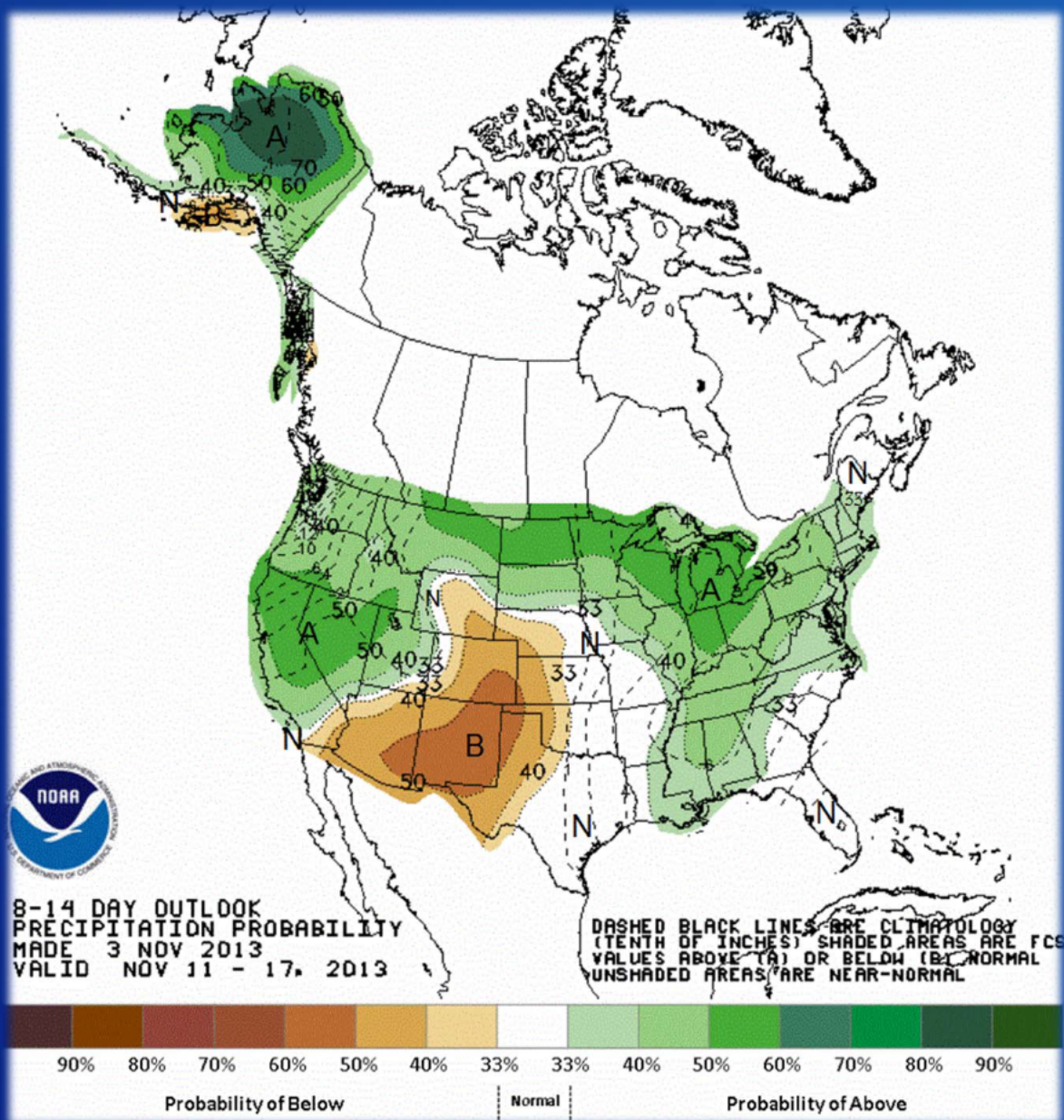
# Drought Outlook



# RECLAMATION



# 2 weeks Out



# RECLAMATION

# Questions ?



RECLAMATION

**From:** Jason Peltier  
**Sent:** Friday, November 8, 2013 10:52 AM  
**To:** Dennis Cardoza; David Bernhardt; Joe Findaro  
**Subject:** FW: Gil Ivey making push for BuRec Commissioner  
**Attachments:** Ivey House Letter to Deputy Secy Connor.pdf

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**From:** Greg Zlotnick [mailto:[greg.zlotnick@sldmwa.org](mailto:greg.zlotnick@sldmwa.org)]  
**Sent:** Friday, November 08, 2013 9:48 AM  
**To:** Ara Azhderian; Jason Peltier; Patterson, Roger K  
**Subject:** Gil Ivey making push for BuRec Commissioner

**GREG ZLOTNICK**

DELTA INITIATIVES AND SPECIAL PROJECTS  
SAN LUIS & DELTA-MENDOTA WATER AUTHORITY



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# Congress of the United States

## House of Representatives

Washington, D.C. 20515

October 29, 2013

Deputy Secretary Michael Connor  
Department of the Interior  
1849 C St NW  
Washington, DC 20240

Dear Deputy Secretary Connor:

We wish to express our strong support of Gilbert Ivey for the position of Commissioner of the Bureau of Reclamation at the Department of the Interior.


We recently became aware he is being considered as a viable candidate for Commissioner. For years, Californians have worked with Ivey during his tenure at Metropolitan Water District of Southern California. As current Assistant General Manager and Chief Administrative Officer, he has over 40 years of experience in varied capacities involving complex water issues from the Lower Colorado River Multi-Species Conservation program to his involvement in the Quantification Settlement Agreement, one of the largest water transfers from agriculture to urban use.

Mr. Ivey has contributed to the water community by serving in leadership positions on numerous boards and commissions, as per his attached resume. What is most impressive to those of us involved in water is his open door policy in creating opportunities for and with water agencies and government entities. He has been at the forefront of innovation and has a working grasp of California's water needs as well as an understanding of our national crisis on drought.

Chief Administrative Officer Ivey has often stated that water is an essential industry and is his life's dedication. He understands the intricacies of government and that water is essential to every community. He would bring a wealth of experience and a ready to work attitude that would make the Bureau of Reclamation and the Obama Administration proud.

All of us look forward to working with him in Congress on all water issues, as well as national priorities of the Subcommittee on Water and Power.

Sincerely,

  
Rep. Grace F. Napolitano,  
Ranking Member,  
Water and Power Subcommittee

  
Rep. Marcia Fudge  
Member of Congress



(Ivey letter cont.)



Rep. Barbara Lee  
Member of Congress



Rep. Ben Ray Lujan  
Member of Congress



Rep. Tony Cardenas  
Member of Congress



Rep. Gloria Negrete McLeod  
Member of Congress



Rep. Maxine Waters  
Members of Congress



Rep. Susan A. Davis  
Member of Congress



Rep. Xavier Becerra  
Member of Congress





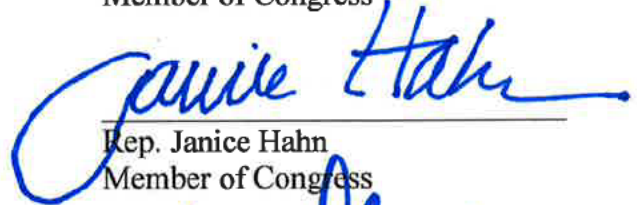
Rep. Ruben Hinojosa  
Member of Congress



Rep. Judy Chu  
Member of Congress



Rep. Raul Ruiz  
Member of Congress



Rep. Janice Hahn  
Member of Congress



Rep. Raul Grijalva  
Member of Congress



Rep. Lucille Roybal-Allard  
Member of Congress





**From:** ca9\_ecfnoticing@ca9.uscourts.gov

**Sent:** Thursday, November 14, 2013 4:28 PM

**To:** cmanson@westlandswater.org

**Subject:** Re-send: 12-15144 San Luis & Delta-Mendota Water, et al v. Pacific Coast Federation of, et al  
"Deleted Entry"

**\*\*\*NOTE TO PUBLIC ACCESS USERS\*\*\*** Judicial Conference of the United States policy permits attorneys of record and parties in a case (including pro se litigants) to receive one free electronic copy of all documents filed electronically, if receipt is required by law or directed by the filer. PACER access fees apply to all other users. To avoid later charges, download a copy of each document during this first viewing.

**United States Court of Appeals for the Ninth Circuit**

**Amended 11/14/2013 15:27:39: Notice of Docket Activity**

The following transaction was entered on 11/13/2013 at 5:27:10 PM PST and filed on 11/13/2013

**Case Name:** San Luis & Delta-Mendota Water, et al v. Pacific Coast Federation of, et al

**Case Number:** [12-15144](#)

**Docket Text:**

COURT DELETED INCORRECT ENTRY. Notice about deletion sent to case participants registered for electronic filing. Correct Entry: [110]. Original Text: Filed (ECF) Appellee California Department of Water Resources Correspondence: Website address change. Date of service: 11/13/2013 [8861469] (AG)

**Notice will be electronically mailed to:**

Rebecca Rose Akroyd, Attorney  
Mr. Steven M. Anderson, Attorney  
Mr. David Longly Bernhardt, Attorney  
Christopher J. Carr  
Ms. Melissa Renee Cushman, Attorney  
Mr. David Aloysius Diepenbrock, Attorney  
Ms. Eileen Diepenbrock  
Ms. Ellen J. Durkee, Attorney  
Mr. Michael M. Edson, Deputy Attorney General  
Alexis K. Galbraith  
Paeter E. Garcia, Attorney  
Allison Goldsmith, Attorney  
Ms. Karna Elizabeth Harrigfeld, Attorney  
Mr. Daniel Spencer Harris, Deputy Attorney General  
Mr. Clifford T. Lee, Deputy Attorney General  
Harold Craig Manson, General Counsel  
Mr. Steven George Martin, Attorney  
Mr. Jonathan Marz  
Mr. Linus Masouredis, Attorney

Mark J. Mathews  
Ms. Amelia T. Minaberrigarai  
Mr. Daniel J. O'Hanlon, Attorney  
Mr. Tim O'Laughlin, Attorney  
Mr. Douglas Andrew Obegi, Attorney  
Mr. Trent Orr  
William C. Paris, III, Attorney  
Ms. Katherine S. Poole, Senior Attorney  
Mr. Jon David Rubin, Attorney  
Steve Sims  
Mr. William M. Sloan, Attorney  
Ms. Jennifer Lynn Spaletta, Attorney  
Mr. Charles Wesley Strickland, Attorney  
Mr. Robert Donnelly Thornton, Attorney  
Mr. George Matthew Torgun, Attorney  
Mr. Hanspeter Walter, Attorney  
Paul S. Weiland, Attorney  
Mr. Gregory Kim Wilkinson, Attorney  
Geoff Williamson  
Mrs. Jeanne M. Zolezzi

**Case participants listed below will not receive this electronic notice:**

Martha F. Bauer  
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OFFICE OF THE ATTORNEY GENERAL  
Room 5090  
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Fresno, CA 93721

Ms. Rebecca Sheehan, Attorney  
KRONICK MOSKOVITZ TIEDEMANN & GIRARD, PC  
400 Capitol Mall  
Sacramento, CA 95814-4416

**From:** Karen Clark

**Sent:** Monday, November 18, 2013 2:15 PM

**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'

**Subject:** PR/Legislation Conference Call on November 22

All,

We will have a PR/Legislation conference call on November 22 at 7:30 a.m. Tom will not be on the call but requested that Jason lead.

If you have any questions, please let me know.

Sincerely,

*~Karen*

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Karen Clark

**Sent:** Monday, November 18, 2013 2:17 PM

**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'

**Subject:** November 29 PR/Legislation Conference Call

All,

In lieu of the Thanksgiving holiday, we will not have a call on November 29.

Sincerely,

*~Karen*

Karen Clark

Executive Assistant to Thomas W. Birmingham

Westlands Water District

P.O. Box 6056

Fresno, CA 93710

(c) 559.230.9470

(f) 559.241.6277

Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Karen Clark  
**Sent:** Monday, November 18, 2013 2:43 PM  
**To:** 'Susan Ramos'  
**Subject:** RE: November 29 PR/Legislation Conference Call

Hi Sue,

No, we will not have one the day after Thanksgiving. Thanksgiving is on November 28. Are you thinking that Thanksgiving is November 22 (This coming Thursday)?

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

---

**From:** Susan Ramos [mailto:sramos@westlandswater.org]  
**Sent:** Monday, November 18, 2013 1:22 PM  
**To:** 'Karen Clark'  
**Subject:** RE: November 29 PR/Legislation Conference Call

Karen  
Works for me but does that mean we will also have one the day after Thanksgiving?  
Sue

---

**From:** Karen Clark [mailto:kclark@westlandswater.org]  
**Sent:** Monday, November 18, 2013 1:17 PM  
**To:** Alan Elias; 'Alison MacLeod'; 'Carmela McHenry'; 'Carolyn Jensen'; Catherine Karen; Cheryl Faunce; 'David Bernhardt'; Dennis Cardoza; Denny Rehberg; 'Doug Subers'; 'Ed Manning'; Erica Woodward; Erick Mullen; 'Gayle Holman'; 'Jason Peltier'; 'Joe Findaro'; Julie Minerva; MargaretAnn Corbett; 'Mike Burns'; Richard Costigan; 'Susan Ramos'; 'Tony Coelho'  
**Subject:** November 29 PR/Legislation Conference Call

All,

In lieu of the Thanksgiving holiday, we will not have a call on November 29.

Sincerely,

*~Karen*

Karen Clark  
Executive Assistant to Thomas W. Birmingham  
Westlands Water District  
P.O. Box 6056  
Fresno, CA 93710  
(c) 559.230.9470  
(f) 559.241.6277  
Email: [kclark@westlandswater.org](mailto:kclark@westlandswater.org)

**From:** Jason Peltier  
**Sent:** Monday, November 25, 2013 6:38 PM  
**To:** Dennis Cardoza; David Bernhardt  
**Subject:** Fwd: Conference

FYI.

Begin forwarded message:

**From:** "John Sitolides" <[john@trilogyadvisors.net](mailto:john@trilogyadvisors.net)>  
**Date:** November 25, 2013 at 4:26:13 PM PST  
**To:** "Patterson,Roger K" <[RPatterson@mwdh2o.com](mailto:RPatterson@mwdh2o.com)>, "Kightlinger,Jeffrey" <[jkightlinger@mwdh2o.com](mailto:jkightlinger@mwdh2o.com)>, "Jason Peltier" <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)>  
**Cc:** <[REDACTED]@[REDACTED]>, "Steve Thompson Surewest" <[REDACTED]@[REDACTED]>, <[REDACTED]@[REDACTED]>, "Angelo Tsakopoulos" <[REDACTED]@[REDACTED]>, <[REDACTED]@[REDACTED]>, "[REDACTED]@[REDACTED]" <[REDACTED]@[REDACTED]>, "John Sitolides" <[john@trilogyadvisors.net](mailto:john@trilogyadvisors.net)>  
**Subject:** RE: Conference

Jeff, Roger & Jason,

We very much appreciate your taking time from tight schedules during this holiday week to discuss how best we might be able to complement your ongoing communications efforts in support of the Bay Delta Conservation Plan.

We were especially encouraged to hear you express your vision identical to that of Angelo K. Tsakopoulos about a concerted two-pronged political communications strategy. Your focus on engaging upstream interests regarding the benefits that would accrue to Northern California under implementation of Bay Delta, as well as an energetic Washington informational and educational campaign concentrating on the California Congressional delegation but also including committee chairs and key members with functional interests in water issues, as well as water policy institutes and regional and national media that can frame the story-telling in favor of your objectives, runs parallel to Angelo's vision of how best to achieve what is clearly in the best interests of the state and its citizens.

We thank you again for your time and interest in speaking with us, and we look forward to the opportunity to potentially collaborate on this critical campaign.

Best wishes to all for a Happy Thanksgiving!

Cordially yours,  
Rep. John T. Doolittle & John Sitolides

John Sitolides, Principal  
Trilogy Advisors LLC  
2000 Corporate Ridge, Suite 8110  
McLean, VA 22102

(202) [REDACTED]  
[john@trilogyadvisors.net](mailto:john@trilogyadvisors.net)

---

**From:** Niki Doan [[mailto:\[REDACTED\]@\[REDACTED\].\[REDACTED\]](mailto:[REDACTED]@[REDACTED].[REDACTED])]  
**Sent:** Friday, November 22, 2013 12:25 PM  
**To:** [REDACTED]@[REDACTED].[REDACTED] Patterson,Roger K; [REDACTED]@[REDACTED].[REDACTED] Kightlinger,Jeffrey; Jason Peltier  
**Cc:** [john@trilogyadvisors.net](mailto:john@trilogyadvisors.net); [REDACTED]@[REDACTED].[REDACTED] Barrio,Virginia N  
**Subject:** RE: Conference

Will do.  
Thank you all.  
N

---

**From:** [REDACTED]@[REDACTED].[REDACTED] [[mailto:\[REDACTED\]@\[REDACTED\].\[REDACTED\]](mailto:[REDACTED]@[REDACTED].[REDACTED])]  
**Sent:** Friday, November 22, 2013 9:20 AM  
**To:** Patterson,Roger K; Bob Thomas ([REDACTED]@[REDACTED].[REDACTED]); Kightlinger,Jeffrey; Jason Peltier  
**Cc:** John Sitalides ([john@trilogyadvisors.net](mailto:john@trilogyadvisors.net)); [REDACTED]@[REDACTED].[REDACTED] Niki Doan; Barrio,Virginia N  
**Subject:** RE: Conference

Yes...Niki can you send out the invite for Monday afternoon 11/25 at 2:15

---

**From:** Patterson,Roger K [<mailto:RPatterson@mwdh2o.com>]  
**Sent:** Friday, November 22, 2013 9:01 AM  
**To:** [REDACTED]@[REDACTED].[REDACTED] Bob Thomas ([REDACTED]@[REDACTED].[REDACTED]); Kightlinger,Jeffrey; Jason Peltier  
**Cc:** John Sitalides ([john@trilogyadvisors.net](mailto:john@trilogyadvisors.net)); [REDACTED]@[REDACTED].[REDACTED] 'Niki Doan ([REDACTED]@[REDACTED].[REDACTED])  
Barrio,Virginia N  
**Subject:** RE: Conference

Thanks Steve. Could we push to 2:15? Thx.

---

**From:** [steve@\[REDACTED\].\[REDACTED\]](mailto:steve@[REDACTED].[REDACTED]) [[mailto:\[REDACTED\]@\[REDACTED\].\[REDACTED\]](mailto:[REDACTED]@[REDACTED].[REDACTED])]  
**Sent:** Friday, November 22, 2013 8:51 AM  
**To:** Bob Thomas ([REDACTED]@[REDACTED].[REDACTED]); Kightlinger,Jeffrey; Patterson,Roger K; Jason Peltier  
**Cc:** John Sitalides ([john@trilogyadvisors.net](mailto:john@trilogyadvisors.net)); [REDACTED]@[REDACTED].[REDACTED] 'Niki Doan ([REDACTED]@[REDACTED].[REDACTED])  
**Subject:** Conference

Roger,

Today at 1, doesn't work for several folks now. Could we have a conference call on Monday 11/25 between 1-3, think we only need 30 minutes. Does that work for everyone? I will ask Niki to send out an invite for 2 pst on Monday.

Steve

[REDACTED]@[REDACTED].[REDACTED]  
916-[REDACTED]-[REDACTED]

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**From:** Jason Peltier  
**Sent:** Thursday, December 5, 2013 12:12 PM  
**To:** Kiel Weaver (Kiel. weaver@mail. house. gov)  
**CC:** Dennis Cardoza; David Bernhardt  
**Subject:** FW: DWR's latest year type outlook

I understand DWR will post this information about Monday.

-----Original Message-----

From: Tom Boardman [<mailto:tboardman@apex.net>]  
Sent: Thursday, December 05, 2013 10:21 AM  
To: Ara Azhderian; Jason Peltier  
Subject: DWR's latest year type outlook

DWR just reported at its water ops meeting that the year type under a 90% exceedance fc is critical...no surprise there. But, under a 10% exceedance, the year type does not get better than a below normal. DWR is projecting that there is only a 1 in 5 chance of a normal hydrologic year.

Small storm expected this weekend, but still no definitive projections for the long range outlook.

Sent from my iPad

**From:** Jason Peltier

**Sent:** Friday, December 6, 2013 3:09 PM

**To:** 'James Watson'; Sue Ramos; Craig Manson; Philip Williams; Gayle Holman; Jon Rubin; Dennis Cardoza; Joe Findaro; David Bernhardt

**CC:** Ara.azhderian@sldmwa.org

**Subject:** FW: Materials for today's SWC Water Operations Committee meeting

**Attachments:** 05Dec2013 snow surveys briefing for SWC meeting.pdf; 120513-MeetingPackage.pdf

Pucker up.

---

**From:** Frances Mizuno [mailto:frances.mizuno@sldmwa.org]

**Sent:** Friday, December 06, 2013 12:48 PM

**To:** 'David Weisenberger'; 'Anthea Hansen'; Bill Harrison; 'r.gilmore@bbid.org'; 'Peter Rietkerk'; 'Bobby Pierce'; 'Martin McIntyre'; Lon Martin; Dennis Falaschi; Dan Nelson; Ara Azhderian; jpeltier@westlandswater.org; Jon Rubin; Chase Hurley; 'Christopher White'; Steve Chedester; jbryant@panochewd.org; Houk, Randy; John Mallyon; 'DMody@valleywater.org'; Cindy Kao; 'Danny Wade'; Jeff F. Cattaneo; Jose Gutierrez; rfreeman@westlandswater.org; Mark Rhodes; Diane Rathmann; James Watson; sramos@westlandswater.org; tbirmingham@westlandswater.org

**Cc:** 'Tom Boardman'

**Subject:** FW: Materials for today's SWC Water Operations Committee meeting

Hi All,

Please find attached the latest information provided by DWR for the SWC's Operations Committee meeting on current state of hydrology and forecast.

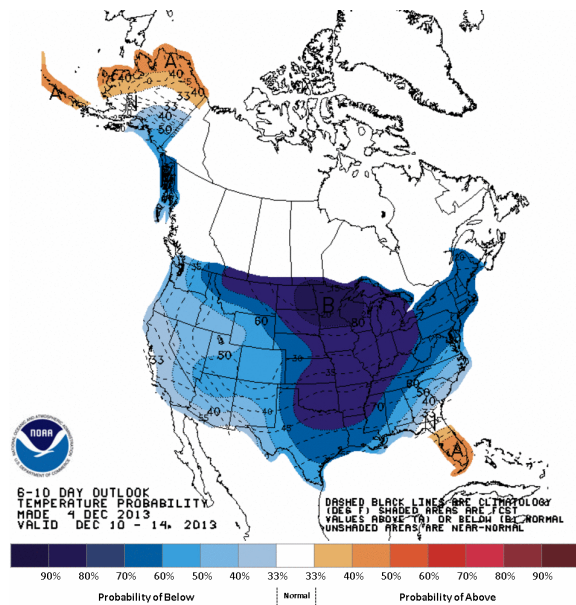
Note from Tom Boardman:

DWR reported at its water ops meeting that the year type under a 90% exceedance fc is critical...no surprise there. But, under a 10% exceedance, the year type does not get better than a below normal. DWR is projecting that there is only a 1 in 5 chance of a normal hydrologic year.

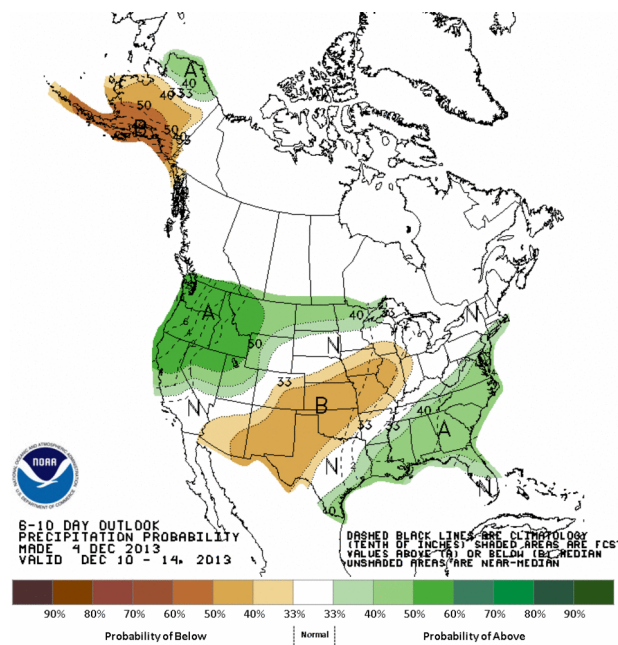
Small storm expected this weekend, but still no definitive projections for the long range outlook.

## 05 Dec 2013 Update from DWR Snow Surveys Section – Weather, Climate, and Hydrology

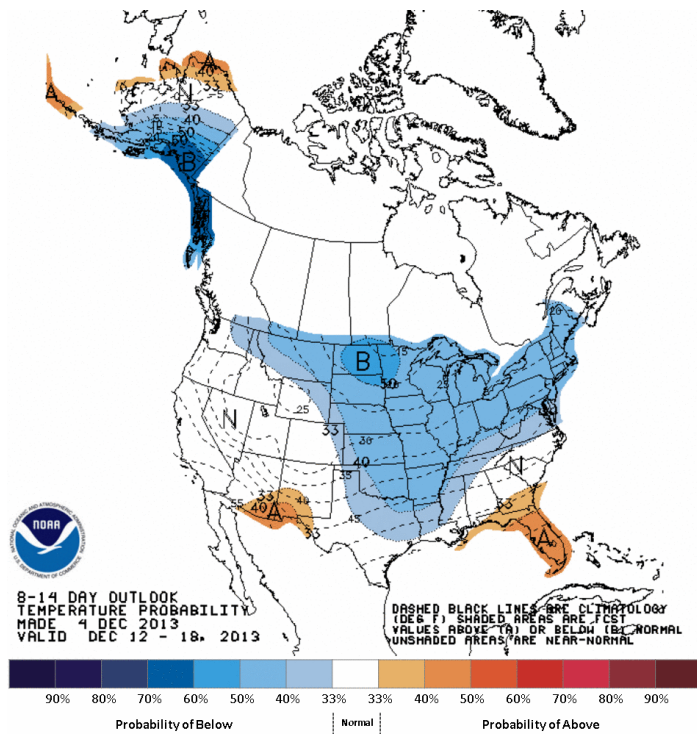
1-5 Day Weather Outlook: 0.5-1.2 inches of precipitation expected across the State Friday into Saturday with freezing elevations ranging from 1500-4000 feet over the next five days. Dry thereafter.



6-10 Day Temperature Outlook (Dec 10-14) suggests below normal temperatures for all of California.

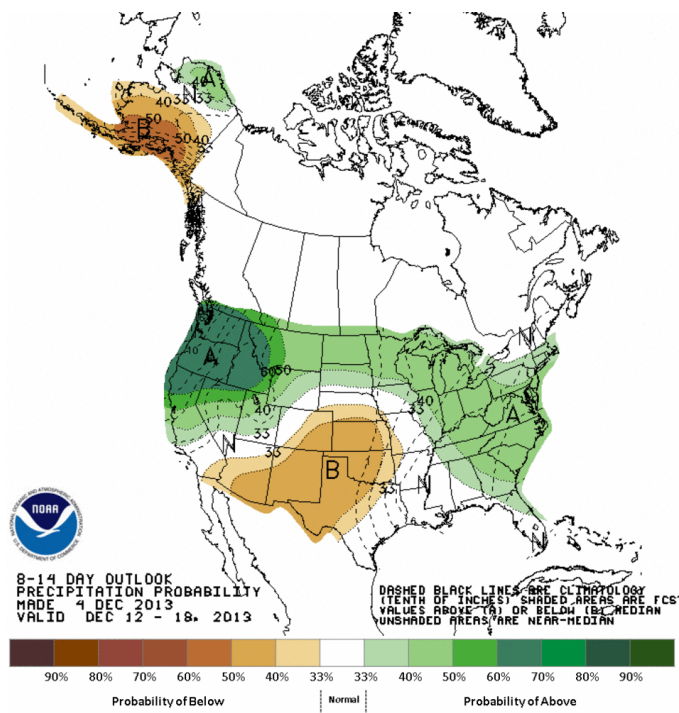


6-10 Day Precipitation Outlook (Dec 10-14): suggests above normal precipitation for Northern California



### 8-14 Day Temperature Outlook (Dec 12-18)

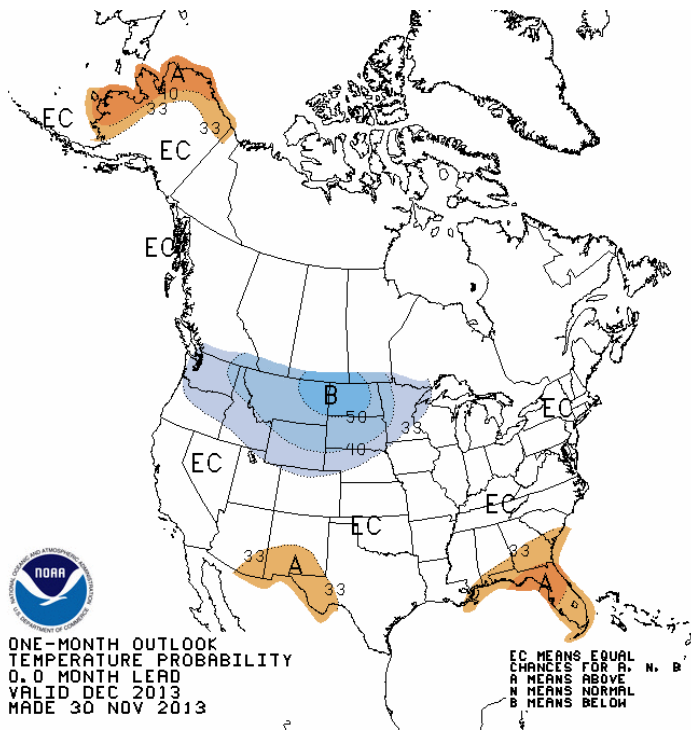
: Suggests near normal temperatures Statewide.



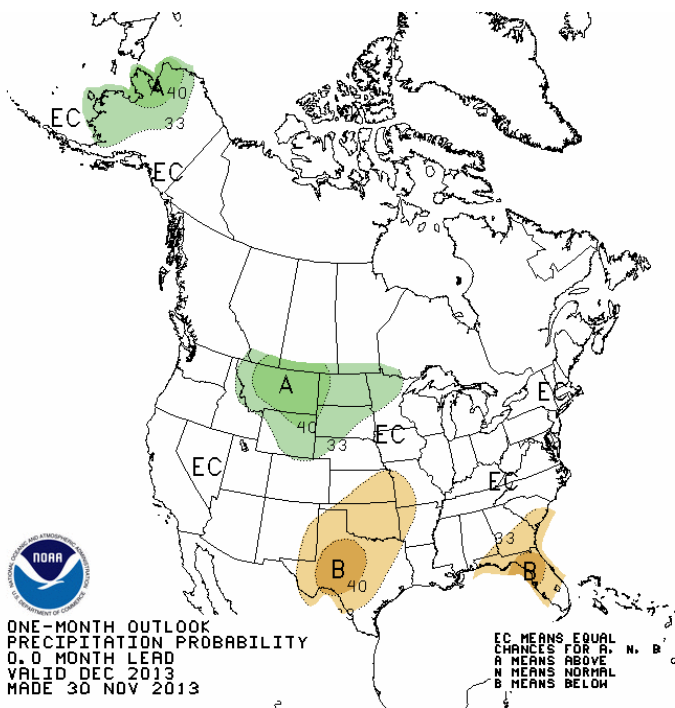
### 8-14 Day Precipitation Outlook (Dec 12-18):

suggests above normal precipitation for Northern California and the SJ Valley.

### 30-Day Temperature and Precipitation Outlooks

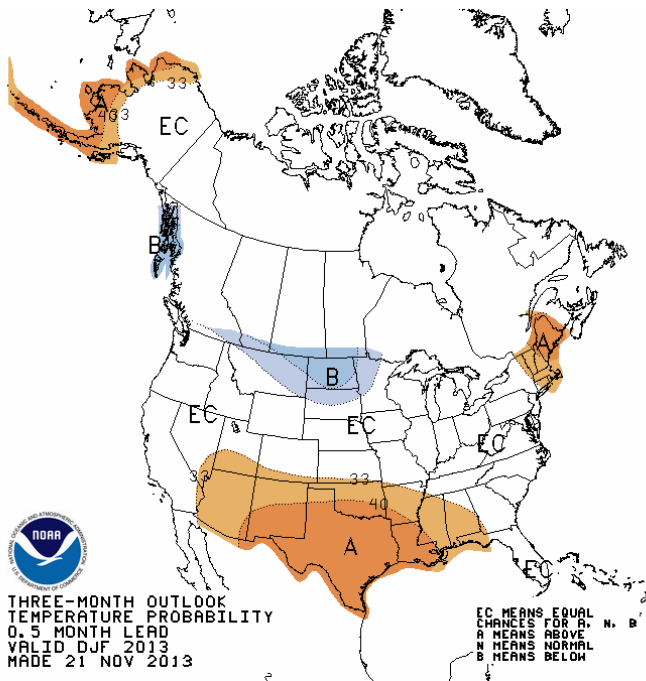


30 – Day Temperature Outlook for December (30 Nov 2013) – suggests equal chances of above or below normal temperatures for all of California.

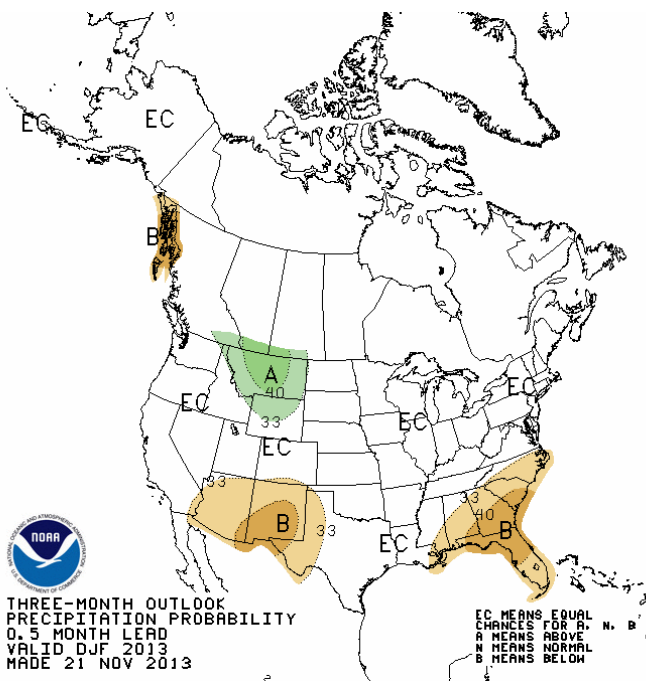


30 – Day Precipitation Outlook for December (30 Nov 2013) – suggests equal chances of above or below normal precipitation for all of the Western United States.

## 90-Day Temperature and Precipitation Outlooks



90 Day Temperature Outlook for Dec  
thru Feb. (21 Nov 2013) – Suggests equal  
chances of above or below normal  
temperatures throughout California.



90 Day Precipitation Outlook for Dec –  
Feb (21 Nov 2013): Suggests equal  
chances of above or below normal  
precipitation throughout California.

## El Nino/La Nina Conditions

***ENSO-neutral conditions are present across the equatorial Pacific and are expected to persist into the Northern Hemisphere Spring 2014***

El Nino region 3.4 is currently at 0.1C (slightly above average).



### Summary

**ENSO Alert System Status: Not Active**

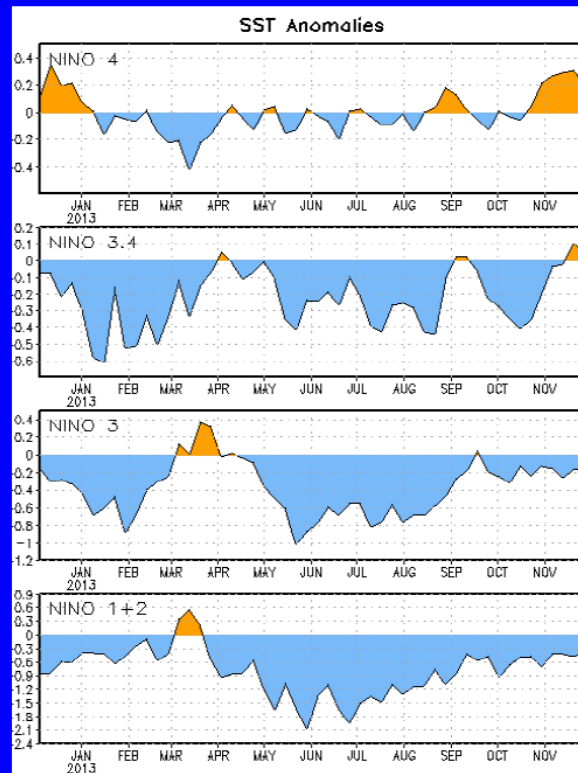
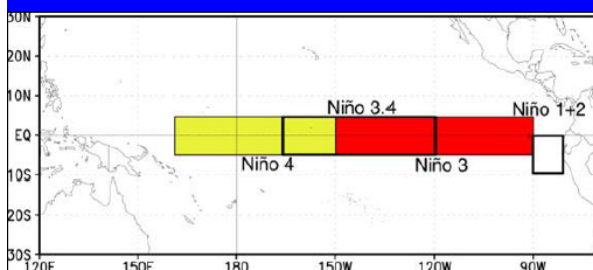
- ENSO-neutral conditions continue.\*
- Equatorial sea surface temperatures (SST) are near average across much of the Pacific Ocean.
- ENSO-neutral is expected into the Northern Hemisphere spring 2014.\*



### Niño Region SST Departures (°C) Recent Evolution

The latest weekly SST departures are:

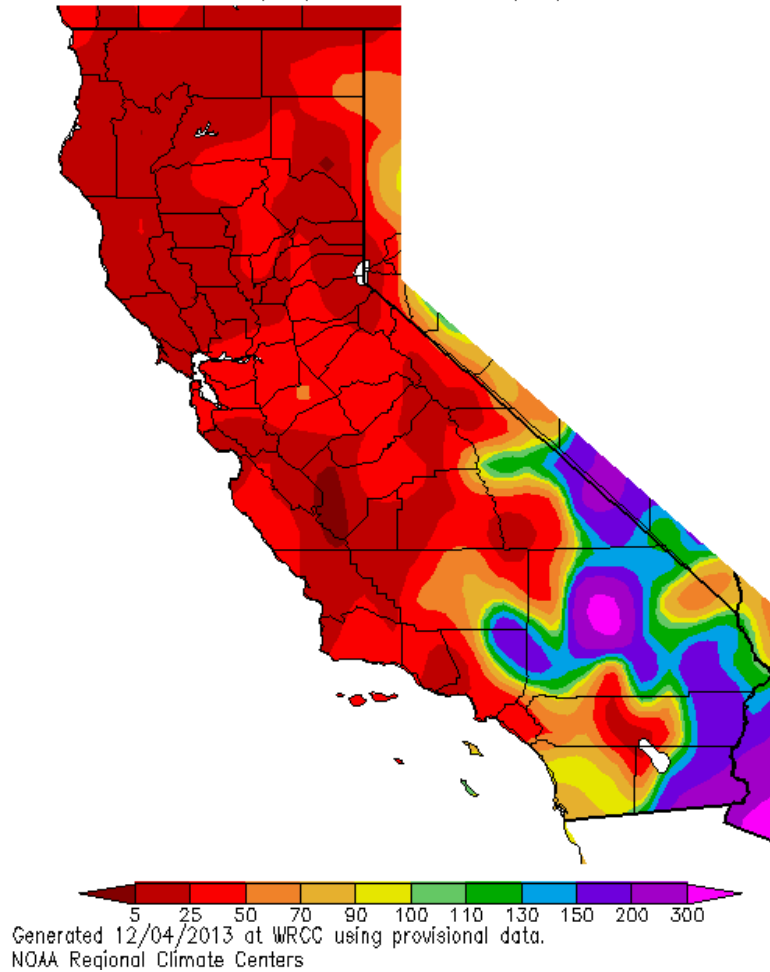
Niño 4	0.2°C
Niño 3.4	0.1°C
Niño 3	-0.1°C
Niño 1+2	-0.4°C





## Statewide Precipitation Conditions

Percent of Average Precipitation (%)  
10/1/2013 – 12/3/2013



### Latest Northern Sierra 8-Station Index (as of 04 Dec 2013):

November = 1.7" = 27%                      December = 0.2" = 2%  
Season = 2.6" = 25%                      WY = 5% (2.6"/50.0")  
Last year to date = 22.3" (214%)

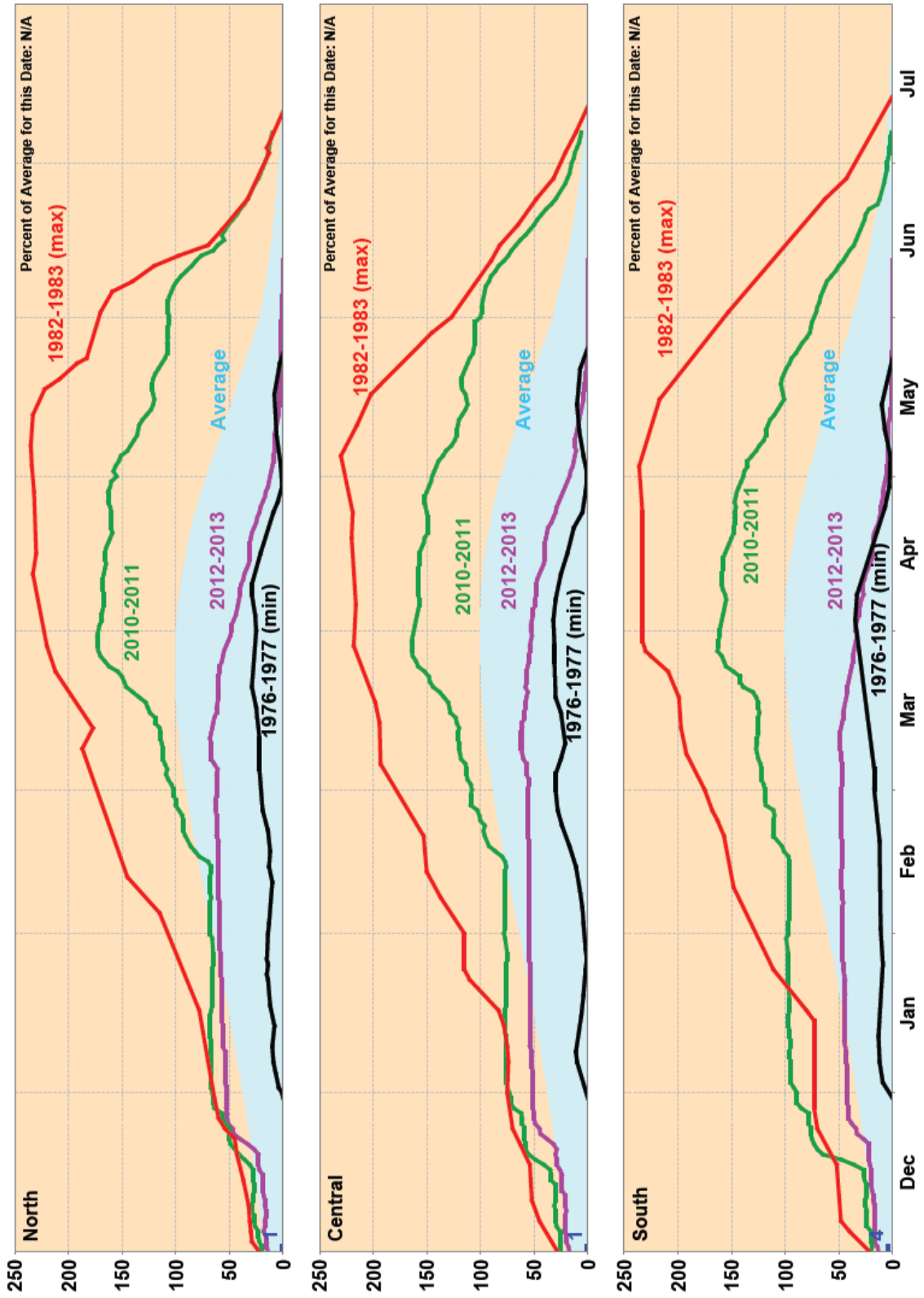
### Latest San Joaquin 5-Station Precipitation Index (as of 02 Dec 2013)

November = 1.0" = 21%                      December = 0.0" = ZERO%  
Season = 1.9" = 26%                      WY = 5% (1.9"/40.8")  
Last Year to date = 10.1" (140%)



## First look at Snow Conditions for WY2011-2012

California Snow Water Content, December 2, 2013, Percent of April 1 Average



Statewide Percent of Average for April 1: 0%      Statewide Percent of Average for Date: N/A



# Daily Full Natural Flows for November 2013

in Cubic Feet Per Second

Report generated: 11/25/2013 11:52

Daily Full Natural Flows for November 2013								
Day	TRINITY AT CLAIR ENGLE	LAKE SHASTA TOTAL INFLOW	SACTO AT BEND BRIDGE	FEATHER AT OROVILLE	YUBA AT SMARTVILLE	AMERICAN AT FOLSOM	COSUMNES AT MICH BAR	MOKELUMNE AT PARDEE
01	168	2585	2451	897	326	-521	24	71
02	22	1262	2652	914	356	110	22	-100
03	30	2454	3009	813	375	-305	22	36
04	108	2863	3959	859	172	-26	21	40
05	107	2863	3747	713	408	80	20	99
06	152	2782	3522	859	408	-130	20	34
07	117	2741	3470	725	551	-34	20	96
08	100	2848	3081	522	311	-30	19	-17
09	182	2753	3243	519	238	-60	19	35
10	89	2876	3389	519	552	-57	19	1
11	79	2617	3034	941	160	80	19	-17
12	98	2559	3549	864	230	77	18	-58
13	100	2245	3549	739	277	77	18	27
14	62	2615	3965	709	238	77	18	46
15	52	2794	3873	754		86	17	-14
16	103	2794	3033	709		77	17	54
17	111	3055	3981	754		135	17	14
18	167	2826	3963	873		134	17	53
19	736	4264	7608	2158		435	17	65
20	381	3693	5750	3369		791	22	-51
21	172	4084	5865	1925		424	30	254
22	140	2894	5150	1780		295	57	116
23	115	2854	2736	238		234	42	105
24	-15	2668	3683	1099		191	31	34
25								
26								
27								
28								
29								
30								
Total To Date (in AC-FT)								
	6696	134856	183002	48104	9128	4245	1083	1831
Daily Average (in CFS)								
	141	2833	3844	1011	329	89	23	38
Historic Monthly Average (in CFS)								
	963	6018	8211	3466	1593	1505	150	316
% of Historic Average								
	14	47	46	29	20	5	15	12

Daily Full Natural Flows for November 2013								
Day	STANISLAUS AT GOODWIN	TUOLUMNE AT DON PEDRO	MERCED AT MCCLURE	SAN JOAQUIN AT MILLERTON	KINGS AT PINE FLAT TERMINUS	KAWEAH AT TULE AT SUCCESS	KERN AT ISABELLA	
01	50	115	37	198	175	20	9	165
02	50	-60	16	205	162	19	11	112
03	69	-59	54	115	102	41	11	180
04	69	247	24	90	162	43	10	146
05	97	-81	24	90	104	46	9	159
06	20	70	31	159	240	39	10	154
07	84	70	0	90	160	41	12	126
08	132	-63	23	171	116	16	12	150
09	84	-21	11	127	169	26	11	157
10	62	59	12	137	178	24	12	144
11	62	77	0	179	114	22	10	148
12	59	341	16	228	255	26	9	87
13	38	-139	28	115	159	26	10	193
14	13	-216	76	148	201	23	9	89
15	59	390	0	146	161	25	9	169
16	60	-131	3	180	147	24	12	138
17	50	220	16	-182	105	26	11	159
18	50	-599	0	221	176	29	11	123
19	50	588	59	203	120	31	11	139
20	400	134	133	337	248	41	15	149
21	125	364	12	329	247	48	22	209
22	106		68	266	120	64	23	144
23	68		51	150	227	52	17	171
24	106		58	297	133	48	15	156
25								
26								
27								
28								
29								
30								
Total To Date (in AC-FT)								
	3894	2590	1492	7932	7896	1587	577	7075
Daily Average (in CFS)								
	82	62	31	167	166	33	12	149
Historic Monthly Average (in CFS)								
	475	847	327	602	539	167	76	344
% of Historic Average								
	17	7	9	27	30	19	15	43

# Historical Perspective on Dryness

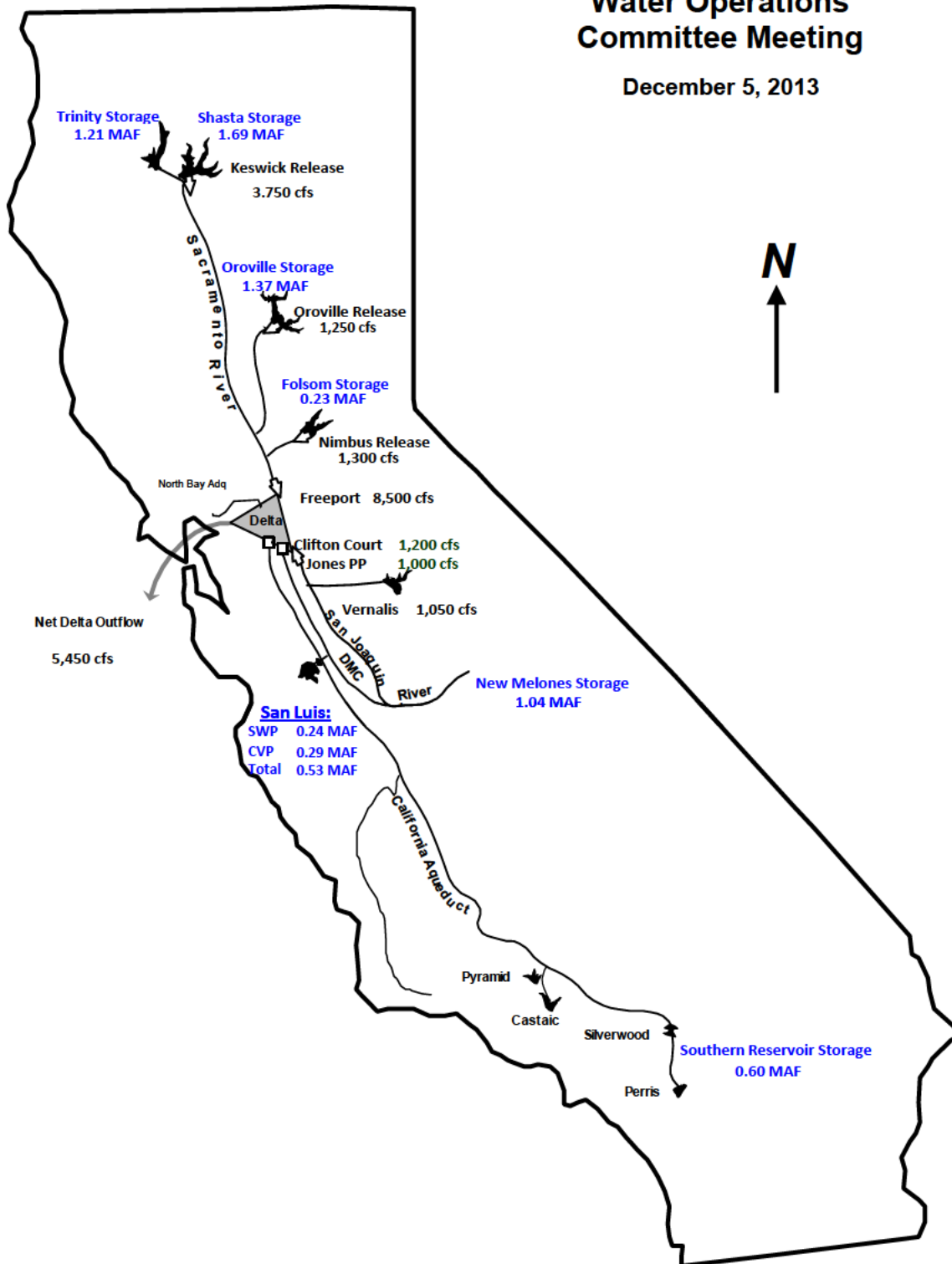
SRR (TAF)										SJI (AF)					ORO (TAF)				
Rank	Year	Jan-Sept	A-J	WY Tota	Rank	Year	JAN-SEPT	AJ	wy	Rank	Year	JAN-SEPT	AJ	wy	Rank	Year	JAN-SEPT	AJ	WY
1	1977	3992	1927	5125	1	1977	969103	801730	1049551	1	1977	791	392	994	1	1977	791	392	994
2	1905	4055	2101	4663	2	1924	1324940	1033720	1500030	2	1924	1041	396	1295	2	1924	1041	396	1295
3	1924	4547	1936	5736	3	1931	1545220	1176580	1659770	3	1931	1186	502	1443	3	1931	1186	502	1443
4	1903	4547	2559	4953	4	1976	1566512	1072777	1969238	4	1976	1373	617	1849	4	1976	1373	617	1849
5	1902	4851	2859	5286	5	1961	1931400	1496070	2095540	5	1939	1480	749	1857	5	1939	1480	749	1857
6	1931	5011	2089	6096	6	1987	1951198	1483466	2083014	6	1994	1543	706	1891	6	1994	1543	706	1891
7	1901	5563	3258	6267	7	1934	2118010	1259490	2283820	7	1988	1546	690	2049	7	1988	1546	690	2049
8	1976	6069	2746	8204	8	1990	2215828	1592374	2460375	8	1929	1560	886	1844	8	1929	1560	886	1844
9	1994	6242	2726	7806	9	1988	2264465	1551686	2476576	9	1992	1676	725	1898	9	1992	1676	725	1898
10	1939	6471	3038	8180	10	2007	2293624	1457338	2510694	10	1934	1677	594	2017	10	1934	1677	594	2017
11	1988	6906	2903	9231	11	1994	2386143	1803005	2541135	11	2001	1711	829	2041	11	2001	1711	829	2041
12	1929	7001	3835	8400	12	1992	2406474	1658675	2577822	12	1933	1772	1142	2000	12	1933	1772	1142	2000
13	2013	7061	3017	11861	13	2013	2454678	1673586	3050313	13	1990	1819	842	2171	13	1990	1819	842	2171
14	1934	7083	2452	8630	14	2012	2496585	1863724	2757688	14	2013	1822	754	3134	14	2013	1822	754	3134
15	1991	7488	4006	8443	15	1939	2570210	1832730	2904670	15	1987	1881	676	2227	15	1987	1881	676	2227
16	1990	7726	3722	9264	16	1964	2694120	2144090	3142880	16	1991	1889	1051	2057	16	1991	1889	1051	2057
17	1992	7760	2925	8868	17	1968	2736030	1850630	2935330	17	1920	1915	1241	2216	17	1920	1915	1241	2216
18	1985	7768	4003	11041	18	1929	2751530	2291950	2844540	18	2008	1957	1009	2239	18	2008	1957	1009	2239
19	1920	7837	4909	9199	19	1913	2857800	2340800	2995230	19	1985	1992	1083	2642	19	1985	1992	1083	2642
20	1987	7855	2802	9270	20	1960	2864050	2070740	2957470	20	1912	2002	1191	2289	20	1912	2002	1191	2289



**"See, here's where you screwed up."**

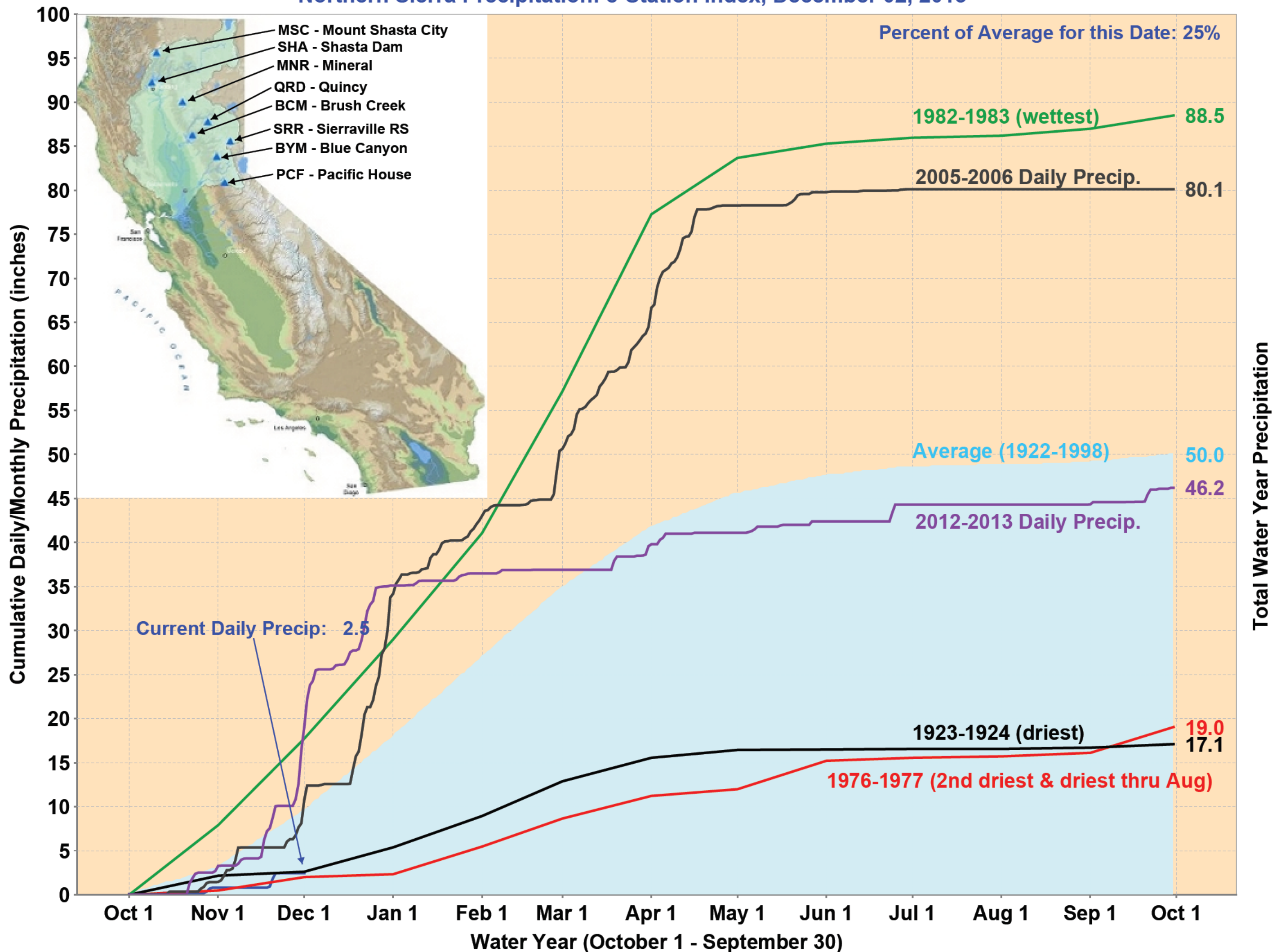
# Water Operations Committee Meeting

December 5, 2013

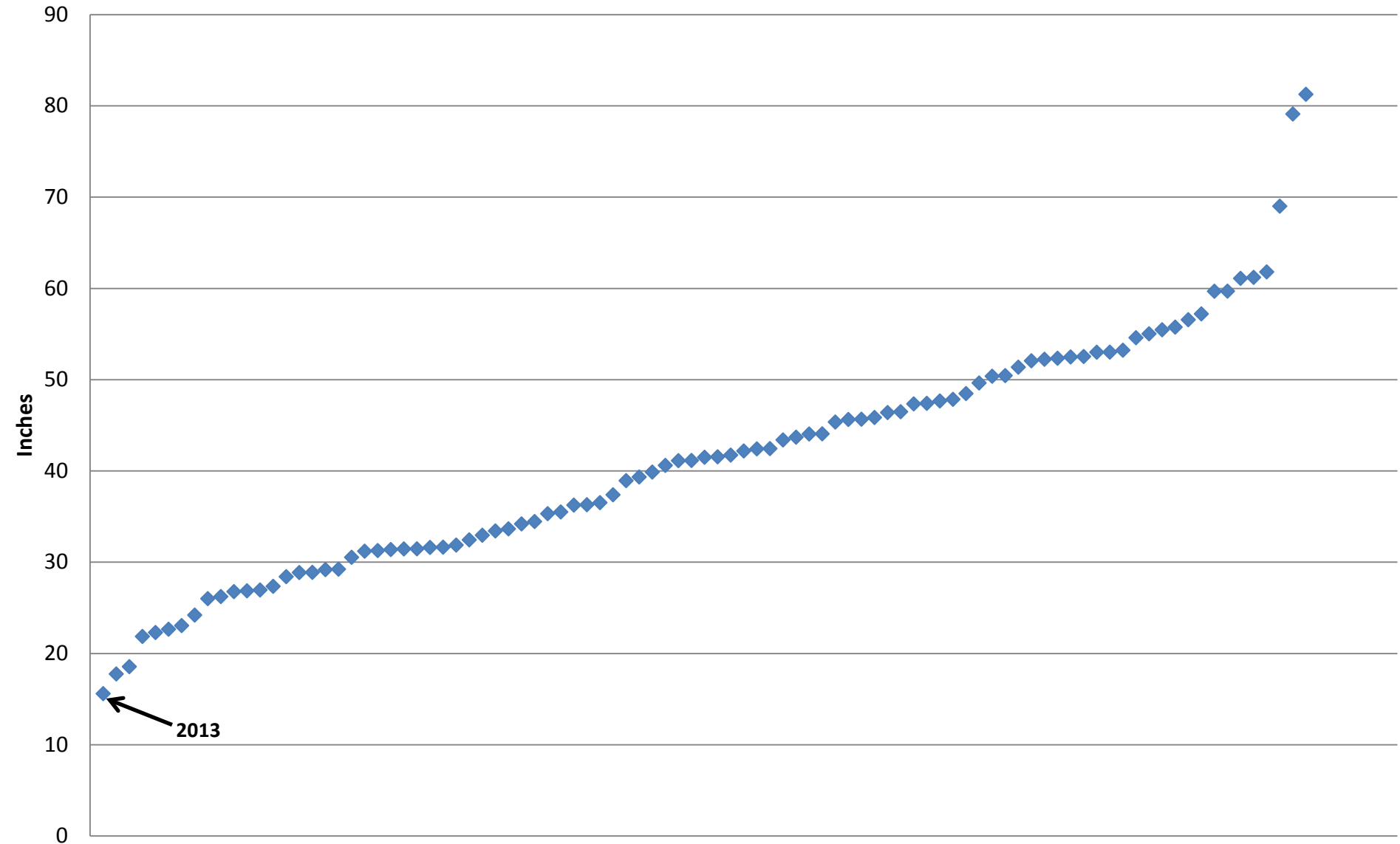




# Northern Sierra Precipitation: 8-Station Index, December 02, 2013

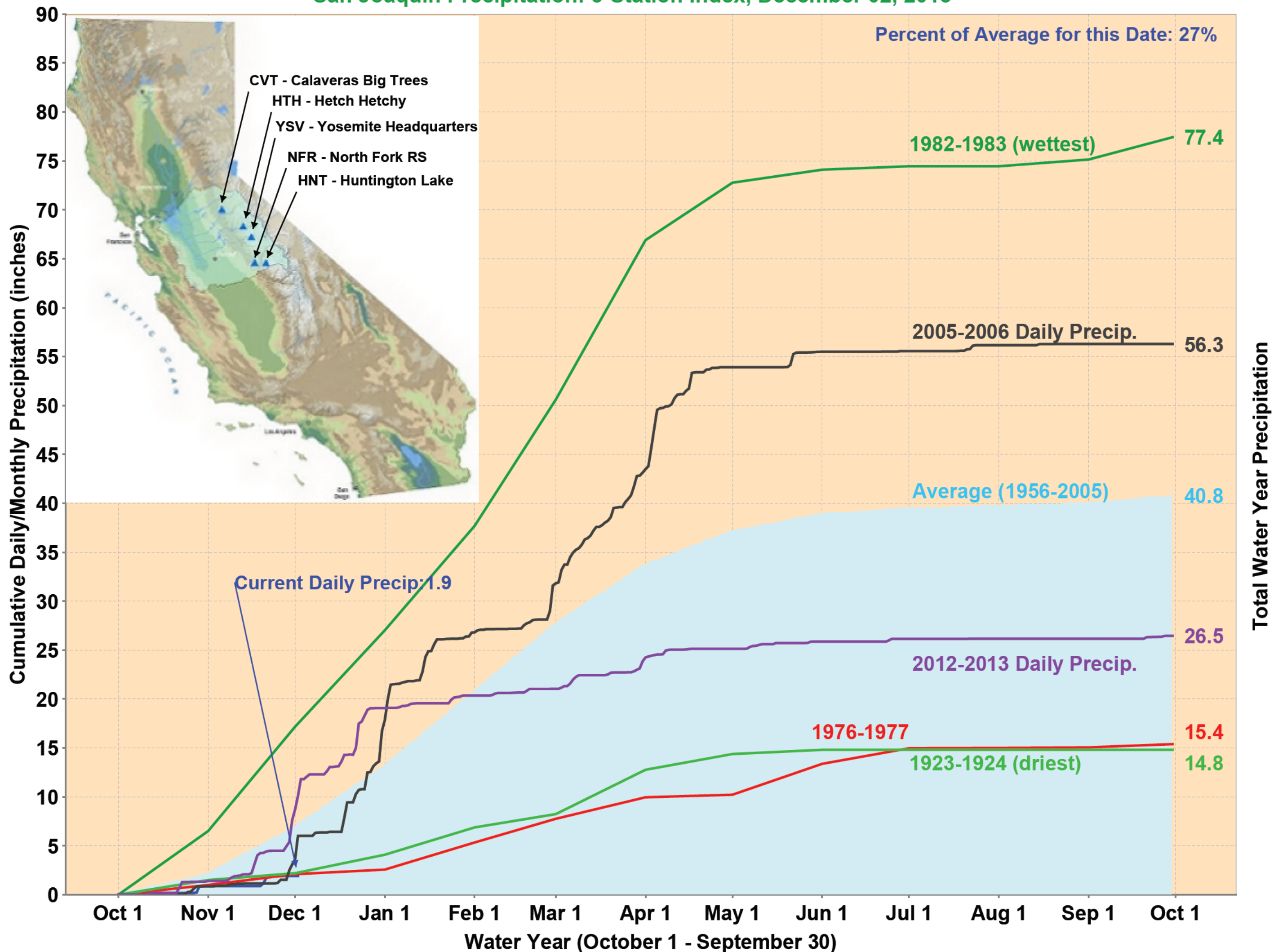


# Northern Sierra Jan-Nov Precipitation (1921-2013)

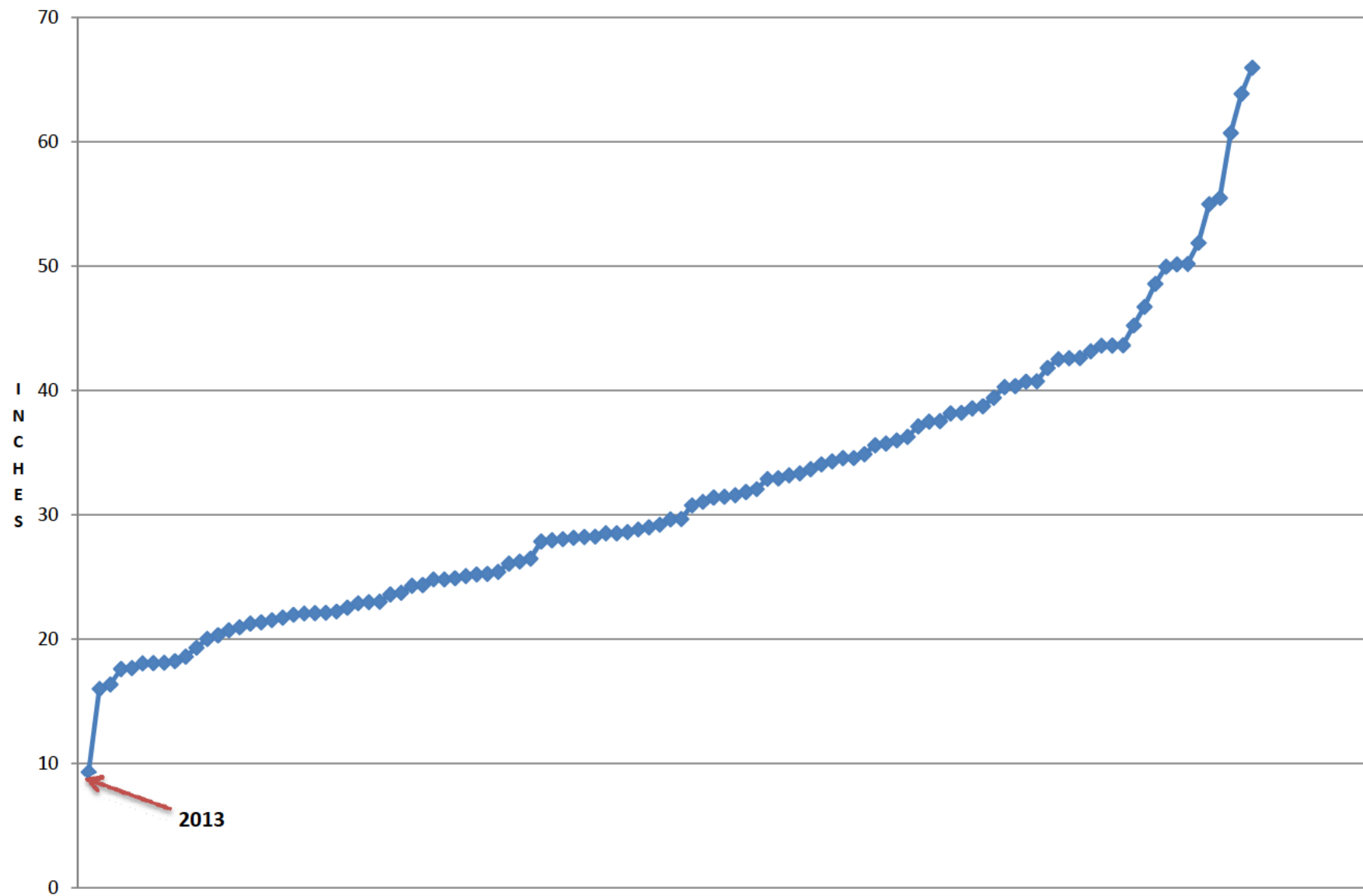




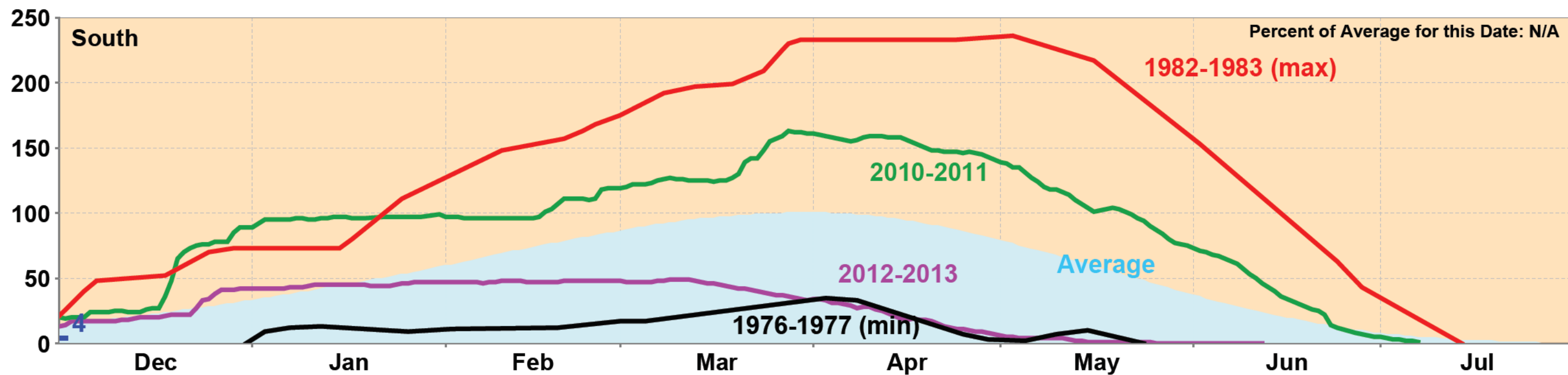
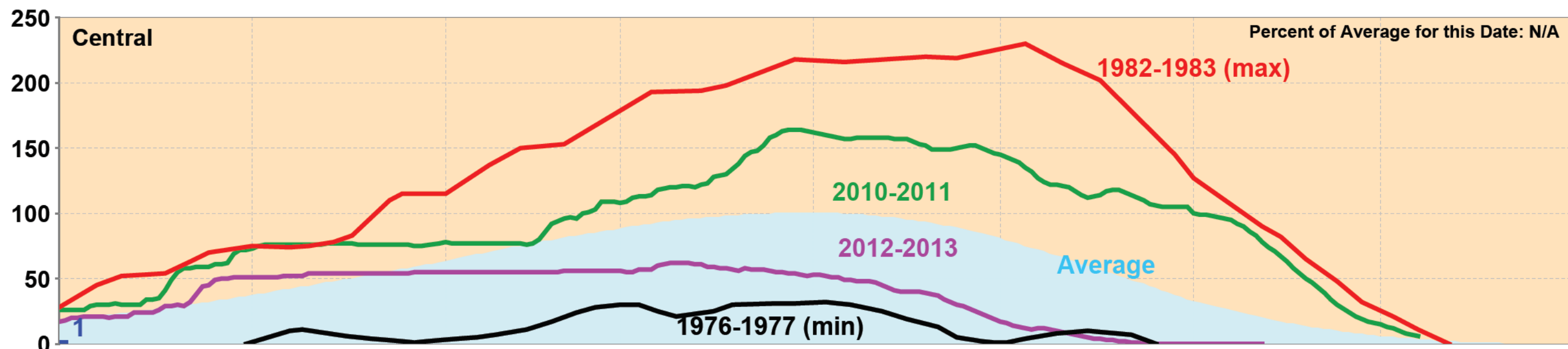
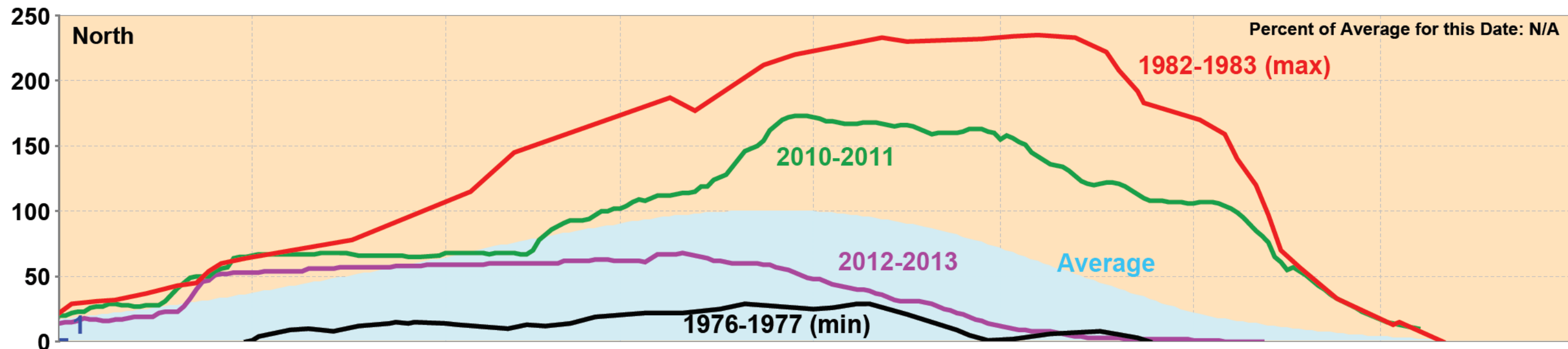
# San Joaquin Precipitation: 5-Station Index, December 02, 2013



**SAN JOAQUIN 5-STATION PRECIPITATION  
JANUARY - NOVEMBER  
(1905 - 2013)**



# California Snow Water Content, December 2, 2013, Percent of April 1 Average



Statewide Percent of April 1: 0%

Statewide Percent of Average for Date: N/A

# Allocation Analysis for 2014 (TAF)

WY 2014 based on Historical data

	2013 Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total (MAF)	Possible Table A %
<b>25% Exceedence (90% Fall) mod</b>		<b>W</b>		<b>SRI = 23.8</b>		<b>SVI = 9.4</b>		<b>Possible 2013 Table A Delivery =</b>							<b>2.595</b>
Oroville EOM Storage	1483	2279	2788	2950	3250	3522	3522	3031	2553	2405	2209	2125	2131	-	-
Feather R. release (avg. cfs)	1250	1760	4590	9480	5700	2600	2400	7840	7610	3600	4000	2400	1770	-	-
SWP Banks PP exports	150	219	224	209	65	58	133	411	413	401	270	397	328	3.128	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	292	439	595	711	642	490	114	42	67	214	157	304	381	-	-
SWP Contractor Deliveries	88	68	72	87	120	193	496	475	375	242	328	256	251	2.963	-
<b>50% Exceedence (90% Fall) D1641</b>		<b>BN</b>		<b>SRI = 16.0</b>		<b>SVI = 6.9</b>		<b>Possible 2013 Table A Delivery =</b>							<b>3.373</b>
Oroville EOM Storage	1483	1767	2164	2651	3007	3231	2985	2442	1951	1694	1498	1409	1371	-	-
Feather R. release (avg. cfs)	1250	1270	1260	1070	1060	1070	5330	7900	7330	4920	4000	2490	2490	-	-
SWP Banks PP exports	438	475	52	29	74	86	228	407	405	393	166	250	381	2.946	-
Potential South of Delta Art. 21 Water Avail.	0	0	390	410	190	0	0	0	0	0	0	0	0	0.990	-
SWP San Luis EOM Storage	578	1033	1062	1062	1062	1023	653	454	372	450	198	123	183	-	-
SWP Contractor Deliveries	90	18	18	25	59	121	576	602	475	304	422	332	328	3.280	-
<b>50% Exceedence (90% Fall) most</b>		<b>BN</b>		<b>SRI = 16.0</b>		<b>SVI = 6.9</b>		<b>Possible 2013 Table A Delivery =</b>							<b>0.696</b>
Oroville EOM Storage	1483	1715	2112	2599	2955	3179	3187	2642	2151	1894	1698	1609	1571	-	-
Feather R. release (avg. cfs)	1250	1270	1260	1070	1060	1070	1060	7940	7330	4920	4000	2490	2490	-	-
SWP Banks PP exports	150	77	85	87	42	41	45	415	413	401	166	115	58	1.945	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	280	360	0.640	-
SWP San Luis EOM Storage	292	309	327	337	275	187	42	315	610	930	1009	1062	1062	-	-
SWP Contractor Deliveries	88	57	62	72	89	123	160	125	99	66	84	63	61	1.064	-
<b>50% Exceedence (90% Fall) mod</b>		<b>BN</b>		<b>SRI = 16.0</b>		<b>SVI = 6.9</b>		<b>Possible 2013 Table A Delivery =</b>							<b>1.555</b>
Oroville EOM Storage	1483	1715	2112	2599	2955	3179	3167	2622	2131	1874	1678	1589	1551	-	-
Feather R. release (avg. cfs)	1250	1270	1260	1070	1060	1070	1390	7940	7330	4920	4000	2490	2490	-	-
SWP Banks PP exports	150	153	154	112	42	41	85	415	413	401	166	410	320	2.712	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	292	380	463	492	415	296	42	161	334	575	546	809	985	-	-
SWP Contractor Deliveries	88	62	67	79	103	155	312	283	224	146	195	151	147	1.923	-
<b>50% Exceedence (90% Fall) least</b>		<b>BN</b>		<b>SRI = 16.0</b>		<b>SVI = 6.9</b>		<b>Possible 2013 Table A Delivery =</b>							<b>2.473</b>
Oroville EOM Storage	1483	1715	2112	2599	2955	3179	3004	2459	1968	1711	1515	1426	1388	-	-
Feather R. release (avg. cfs)	1250	1270	1260	1070	1060	1070	4130	7940	7330	4920	4000	2490	2490	-	-
SWP Banks PP exports	150	203	200	214	42	41	167	415	413	401	166	354	324	2.940	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	292	425	549	673	581	430	98	52	94	252	107	223	313	-	-
SWP Contractor Deliveries	88	67	72	86	118	188	474	452	357	230	313	244	239	2.841	-
<b>75% Exceedence (90% Fall) mod</b>		<b>D</b>		<b>SRI = 11.6</b>		<b>SVI = 5.5</b>		<b>Possible 2013 Table A Delivery =</b>							<b>0.546</b>
Oroville EOM Storage	1431	1536	1723	2013	2196	2173	2005	1770	1587	1508	1459	1441	1478	-	-
Feather R. release (avg. cfs)	1250	1250	1260	1070	1140	1820	1930	2200	1760	1680	1610	1290	1270	-	-
SWP Banks PP exports	125	146	133	93	38	18	23	68	68	148	31	159	222	1.147	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	274	359	435	450	388	270	140	93	64	144	107	219	393	-	-
SWP Contractor Deliveries	81	57	61	71	87	118	134	97	77	53	65	48	46	0.914	-
<b>90% Exceedence (90% Fall) D1641</b>		<b>C</b>		<b>SRI = 8.9</b>		<b>SVI = 4.6</b>		<b>Possible 2013 Table A Delivery =</b>							<b>0.744</b>
Oroville EOM Storage	1431	1462	1581	1812	1826	1746	1573	1372	1225	1205	1156	1156	1213	-	-
Feather R. release (avg. cfs)	1250	1250	1260	1070	2390	1060	1430	1250	890	810	1610	970	960	-	-
SWP Banks PP exports	215	316	150	178	18	18	18	18	18	37	60	137	197	1.165	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	364	620	703	804	716	604	454	285	188	144	107	178	306	-	-
SWP Contractor Deliveries	80	58	62	73	90	125	169	134	106	71	90	68	66	1.112	-
<b>90% Exceedence (90% Fall) most</b>		<b>C</b>		<b>SRI = 8.9</b>		<b>SVI = 4.6</b>		<b>Possible 2013 Table A Delivery =</b>							<b>0.000</b>
Oroville EOM Storage	1431	1462	1581	1812	1826	1746	1573	1380	1238	1217	1168	1168	1225	-	-
Feather R. release (avg. cfs)	1250	1250	1260	1070	2390	1060	1430	1120	810	820	1610	970	960	-	-
SWP Banks PP exports	125	52	51	52	18	18	18	18	21	46	60	137	197	0.688	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	274	270	258	239	164	81	69	42	61	98	162	311	518	-	-
SWP Contractor Deliveries	81	53	58	66	77	96	28	0	0	0	0	0	0	0.379	-
<b>90% Exceedence (90% Fall) mod</b>		<b>C</b>		<b>SRI = 8.9</b>		<b>SVI = 4.6</b>		<b>Possible 2013 Table A Delivery =</b>							<b>0.236</b>
Oroville EOM Storage	1431	1462	1581	1812	1826	1746	1573	1380	1238	1217	1168	1168	1225	-	-
Feather R. release (avg. cfs)	1250	1250	1260	1070	2390	1060	1430	1120	810	820	1610	970	960	-	-
SWP Banks PP exports	125	128	119	77	18	18	18	18	21	46	60	137	197	0.857	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	274	345	399	403	323	230	168	90	69	80	107	228	407	-	-
SWP Contractor Deliveries	81	55	60	69	82	107	79	40	32	24	25	17	15	0.604	-
<b>90% Exceedence (90% Fall) least</b>		<b>C</b>		<b>SRI = 8.9</b>		<b>SVI = 4.6</b>		<b>Possible 2013 Table A Delivery =</b>							<b>0.465</b>
Oroville EOM Storage	1431	1462	1581	1812	1826	1746	1573	1380	1238	1217	1168	1168	1225	-	-
Feather R. release (avg. cfs)	1250	1250	1260	1070	2390	1060	1430	1120	810	820	1610	970	960	-	-
SWP Banks PP exports	125	179	150	175	18	18	18	18	21	46	60	137	197	1.037	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	274	394	478	579	495	393	292	173	119	109	107	206	361	-	-
SWP Contractor Deliveries	81	56	61	70	85	115	119	82	66	45	55	40	38	0.833	-
<b>99% Exceedence (90% Fall) Mod</b>		<b>C</b>		<b>SRI = 5.1</b>		<b>SVI = 3.4</b>		<b>Possible 2013 Table A Delivery =</b>							<b>0.169</b>
Oroville EOM Storage	1309	1233	1271	1334	1280	1166	1013	800	642	586	641	642	698	-	-
Feather R. release (avg. cfs)	1250	1250	1260	1070	2420	930	960	1890	1330	970	960	970	960	-	-
SWP Banks PP exports	120	113	109	65	18	18	18	18	18	18	78	137	197	0.807	-
Potential South of Delta Art. 21 Water Avail.	0	0	0	0	0	0	0	0	0	0	0	0	0	0.000	-
SWP San Luis EOM Storage	272	328	373	365	287	195	146	79	64	54	107	235	420	-	-
SWP Contractor Deliveries	79	55	59	68	81	104	67	28	23	18	17	10	8	0.537	-

## Assumptions for 2014 Allocation Analysis

### Notes

- Deliveries based on SWPAO's 2014 30% deliveries for all studies.
- 100% FRSA delivery assumed for 25%, 50%, 75% and 90%. 50% FRSA Delivery assumed for 99%.
- Probability of exceedence is based on historical hydrology.
- Delivery of half of the Lower Yuba River Accord Component 1 water is assumed in all the OMR cases.
- Determination of Biological Opinions' (BiOp) impacts at the export facilities - SWP and CVP will share available water evenly under the BiOp restrictions.

### Estimated Delivery in Details

	(1) '14 Table A	(2) Txfr Adj	(3) '14-'15 ANTCO	(4) '13 CO & Others	(1+3-2) 2014 Allocation	(1+2+4) 2014 Delivery	(1+3+4) Total Water Available for '14
25% Exceedence (90% Fall) mod	2.473 maf	0.000 maf	0.122 maf	0.490 maf	2.595 maf	2.963 maf	3.085 maf
50% Exceedence (90% Fall) D1641	3.251 maf	0.000 maf	0.122 maf	0.029 maf	3.373 maf	3.280 maf	3.402 maf
50% Exceedence (90% Fall) most	0.574 maf	0.000 maf	0.122 maf	0.490 maf	0.696 maf	1.064 maf	1.186 maf
50% Exceedence (90% Fall) mod	1.433 maf	0.000 maf	0.122 maf	0.490 maf	1.555 maf	1.923 maf	2.045 maf
50% Exceedence (90% Fall) least	2.351 maf	0.000 maf	0.122 maf	0.490 maf	2.473 maf	2.841 maf	2.963 maf
75% Exceedence (90% Fall) mod	0.424 maf	0.000 maf	0.122 maf	0.490 maf	0.546 maf	0.914 maf	1.036 maf
90% Exceedence (90% Fall) D1641	0.622 maf	0.000 maf	0.122 maf	0.490 maf	0.744 maf	1.112 maf	1.234 maf
90% Exceedence (90% Fall) most	0.000 maf	0.000 maf	0.000 maf	0.490 maf	0.000 maf	0.490 maf	0.490 maf
90% Exceedence (90% Fall) mod	0.114 maf	0.000 maf	0.122 maf	0.490 maf	0.236 maf	0.604 maf	0.726 maf
90% Exceedence (90% Fall) least	0.343 maf	0.000 maf	0.122 maf	0.490 maf	0.465 maf	0.833 maf	0.955 maf
99% Exceedence (90% Fall) Mod	0.047 maf	0.000 maf	0.122 maf	0.490 maf	0.169 maf	0.537 maf	0.659 maf

### Reservoir Targets

- Lake Oroville storage target = 1.500 MAF + "F" x (1.633 MAF - 1.500 MAF) on September 30 where "F" = 1/2 x Possible Table A %.

Exceedence	Possible Table A	Storage Target
25% Exceedence (90% Fall) mod	62%	1.541 MAF
50% Exceedence (90% Fall) D1641	81%	1.554 MAF
50% Exceedence (90% Fall) most	17%	1.511 MAF
50% Exceedence (90% Fall) mod	37%	1.525 MAF
50% Exceedence (90% Fall) least	59%	1.539 MAF
75% Exceedence (90% Fall) mod	13%	1.509 MAF
90% Exceedence (90% Fall) D1641	18%	1.512 MAF
90% Exceedence (90% Fall) most	0%	1.500 MAF
90% Exceedence (90% Fall) mod	6%	1.504 MAF
90% Exceedence (90% Fall) least	11%	1.507 MAF
99% Exceedence (90% Fall) Mod	4%	1.503 MAF

- SWP San Luis storage targets for 2014

Exceedence	Deadpool	=	Total
All	42 taf		42 taf

- Fall Storage Level

>>>> for the 50% Exceedences

	Deadpool	ANTCO + Prior 2013 CO	Required Storage
Oct-14	42 taf	41 taf	83 >>> 1/3 of '14-'15 ANTCO is available in Oct. '14
Nov-14	42 taf	81 taf	123 >>> 2/3 of '14-'15 ANTCO is available in Nov. '14
Dec-14	42 taf	122 taf	164 >>> 100% of '14-'15 ANTCO is available in Dec. '14

- Fall Storage Level

>>>> for the remaining 25%, 50%, 75% and 90% Exceedences

	Deadpool	ANTCO + Prior 2013 CO	Required Storage
Oct-14	42 taf	65 taf	107 >>> 1/3 of '14-'15 ANTCO is available in Oct. '14
Nov-14	42 taf	130 taf	172 >>> 2/3 of '14-'15 ANTCO is available in Nov. '14
Dec-14	42 taf	195 taf	237 >>> 100% of '14-'15 ANTCO is available in Dec. '14

### OMR Assumptions

	Most Restrictive OMR	Moderate OMR	Least Restrictive OMR
January	-1250	-3500	-5000
February	-1250	-3500	-5000
March	-1250	-2000	-5000
April	SJI Critical WY 1:1, Dry WY 2:1, BN WY 3:1, AN/W WY 4:1		
May	SJI Critical WY 1:1, Dry WY 2:1, BN WY 3:1, AN/W WY 4:1		
June	-1250	-2500	-5000
December 1-17	-2000		
December 18-31	-1250	-2000	-5000

\* Targets in accordance with the USFWS Delta Smelt BO, NMFS Salmon BO and the Longfin Incidental Take Permit.

## 2014 Position Analysis

**Model:** CalSim II: BST\_2005A01A - with CalSim Allocation Model (CAM)

BiOps: CAM - moderate OMR restriction (90% Dec 2013), moderate OMR restriction (50% Dec 2013)

CalSim - dynamic OMR restriction

### Assumptions:

- SWP Demand Patterns: 100, 50, and 30 percent pattern from 2014 initial request.
- Sacramento Valley Index updated for current conditions using 5.8 for WY 2013
- San Joaquin Valley Index updated for current conditions using 1.6 for WY 2013

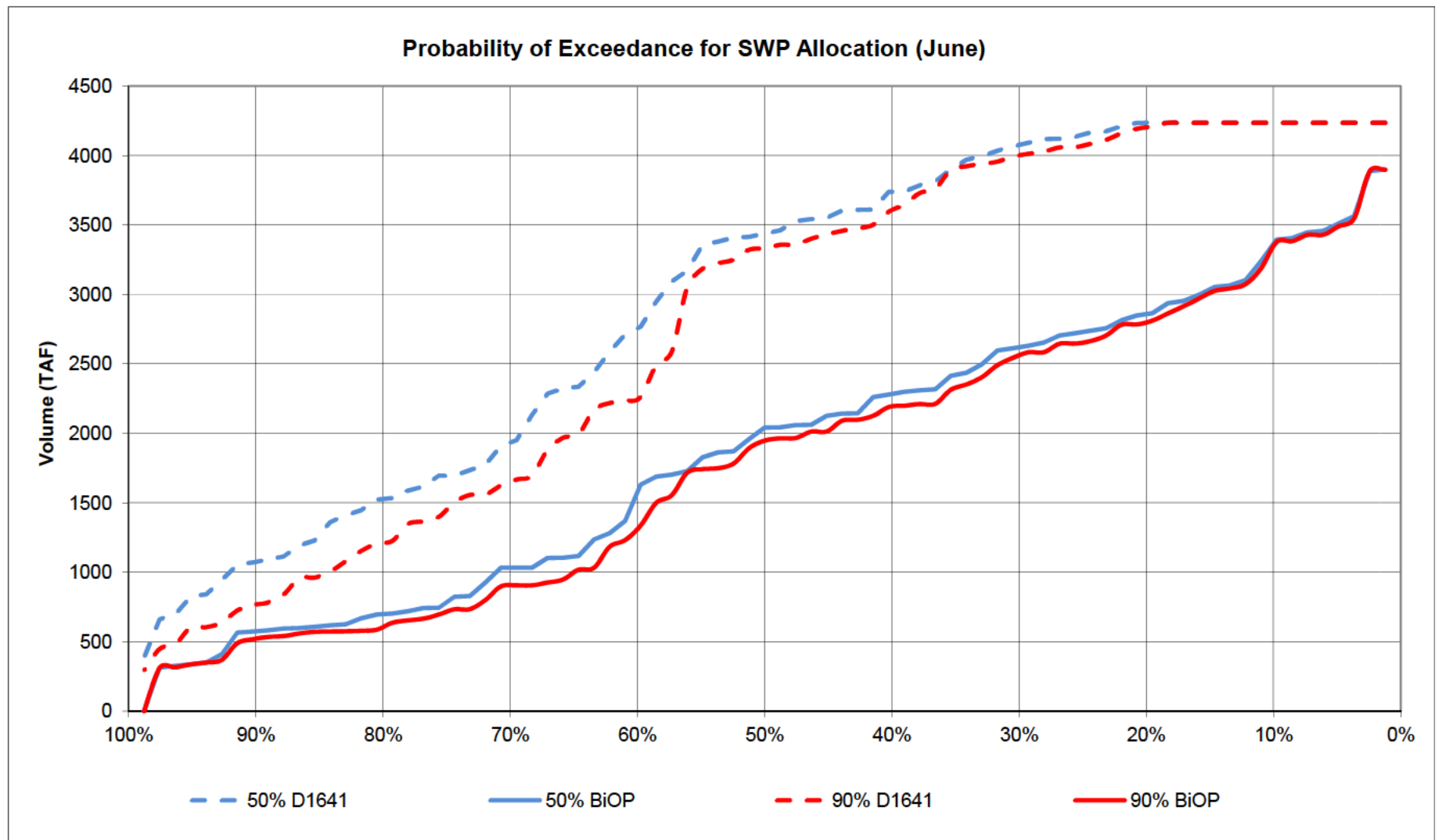
### Starting Conditions:

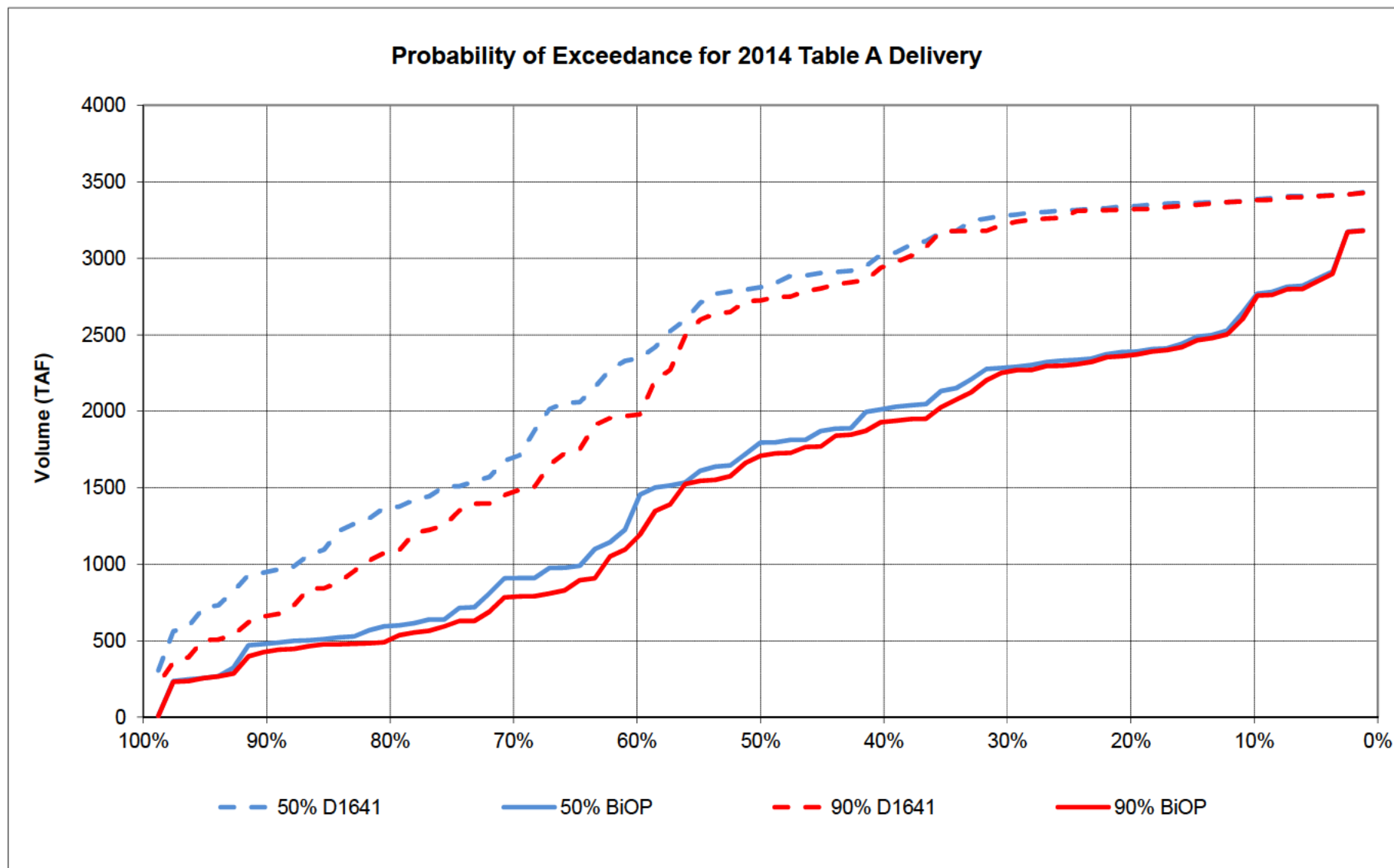
#### Jan 2014 to Dec 2014

Year ending storages from the November DCO with actual deliveries through October were used for 2014 starting conditions

	D1641 (50% Dec 2013)	D1641 (90% Dec 2013)	BiOps (50% Dec 2013)	BiOps (90% Dec 2013)
Oroville (TAF)	1483	1431	1483	1431
SWP San Luis (TAF)	578	364	292	274
Total San Luis (TAF)	1084	816	601	583

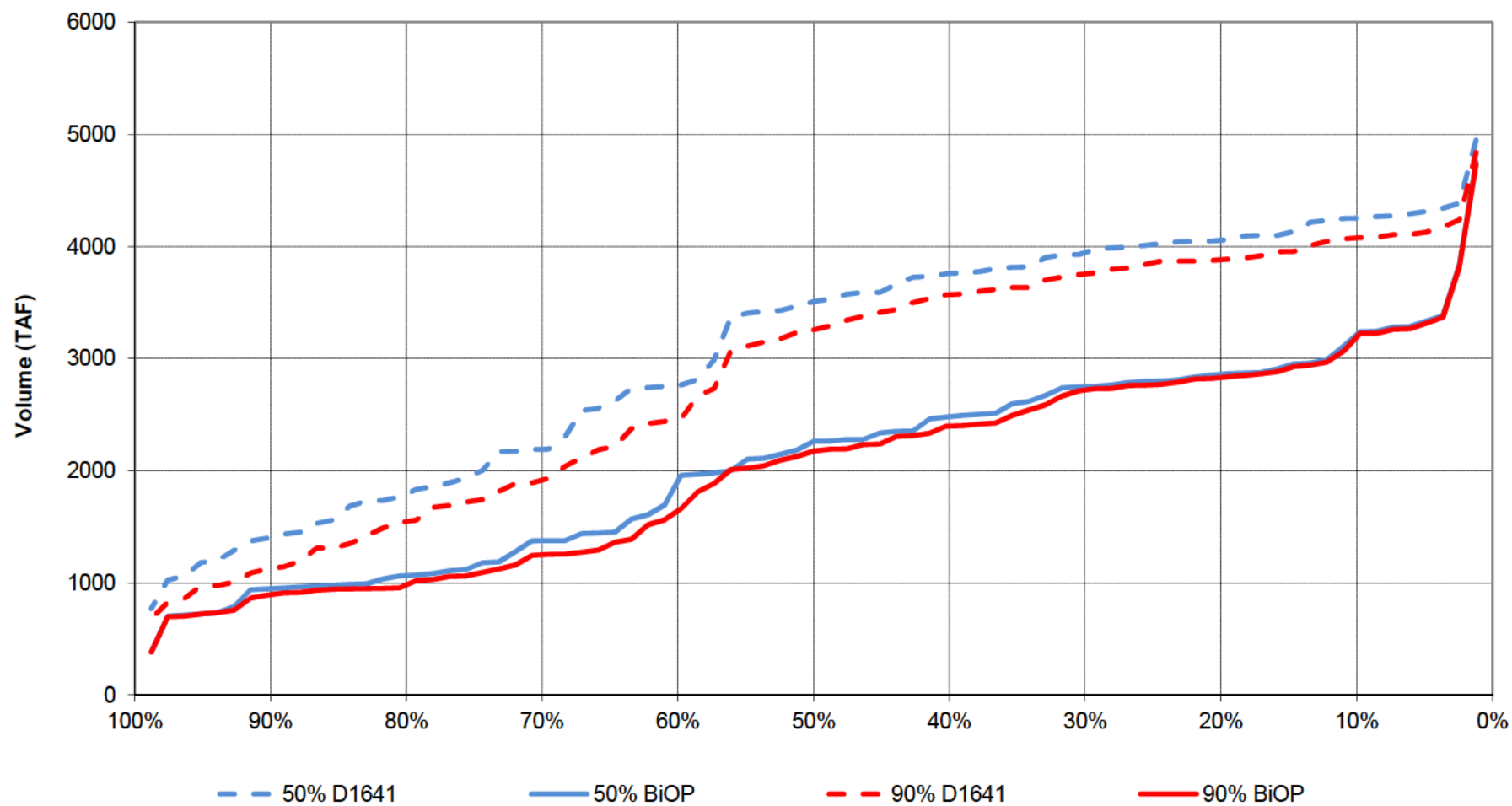
- Article 56 from 2012 & 2013 to 2014 is 545 TAF



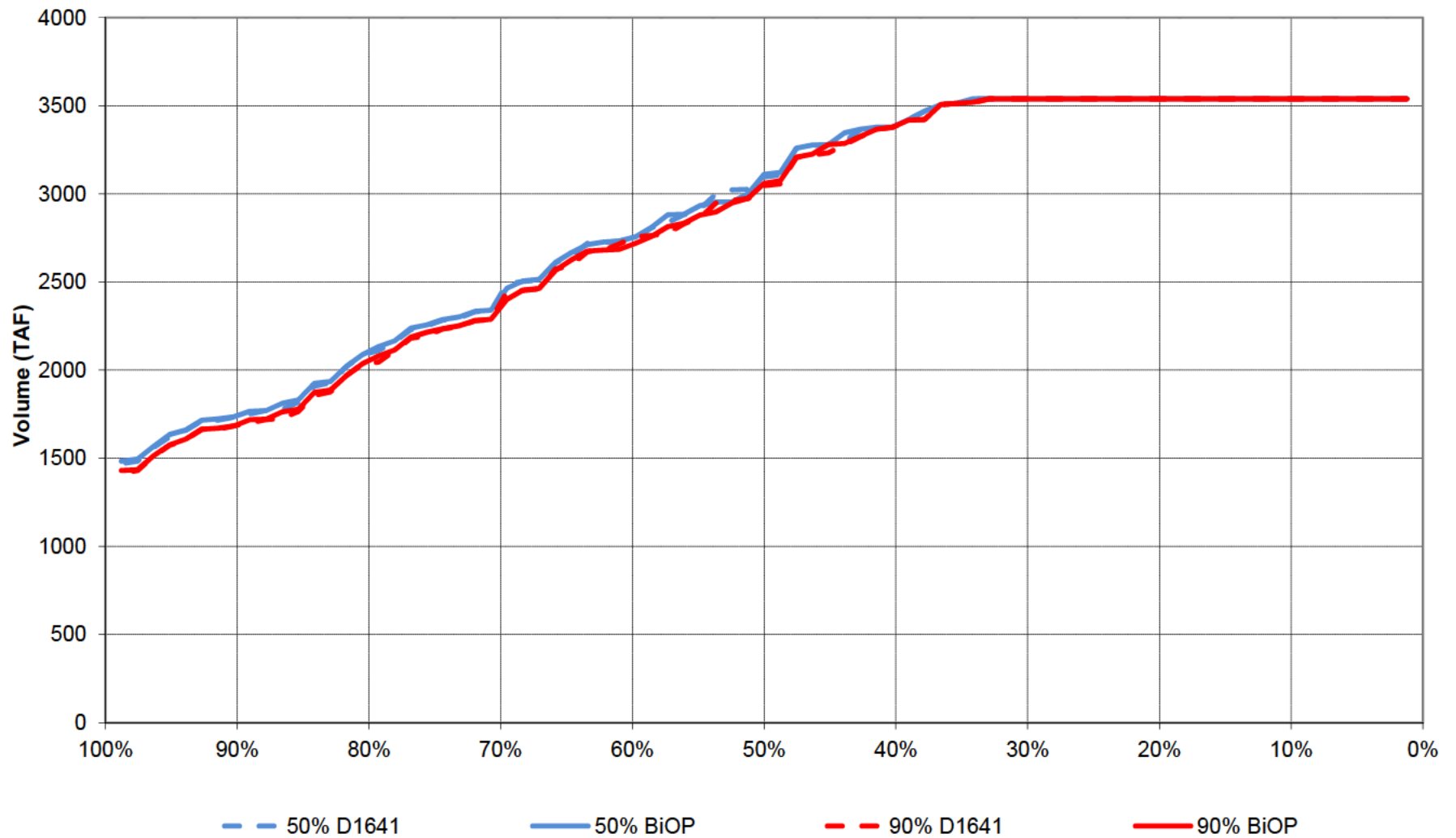




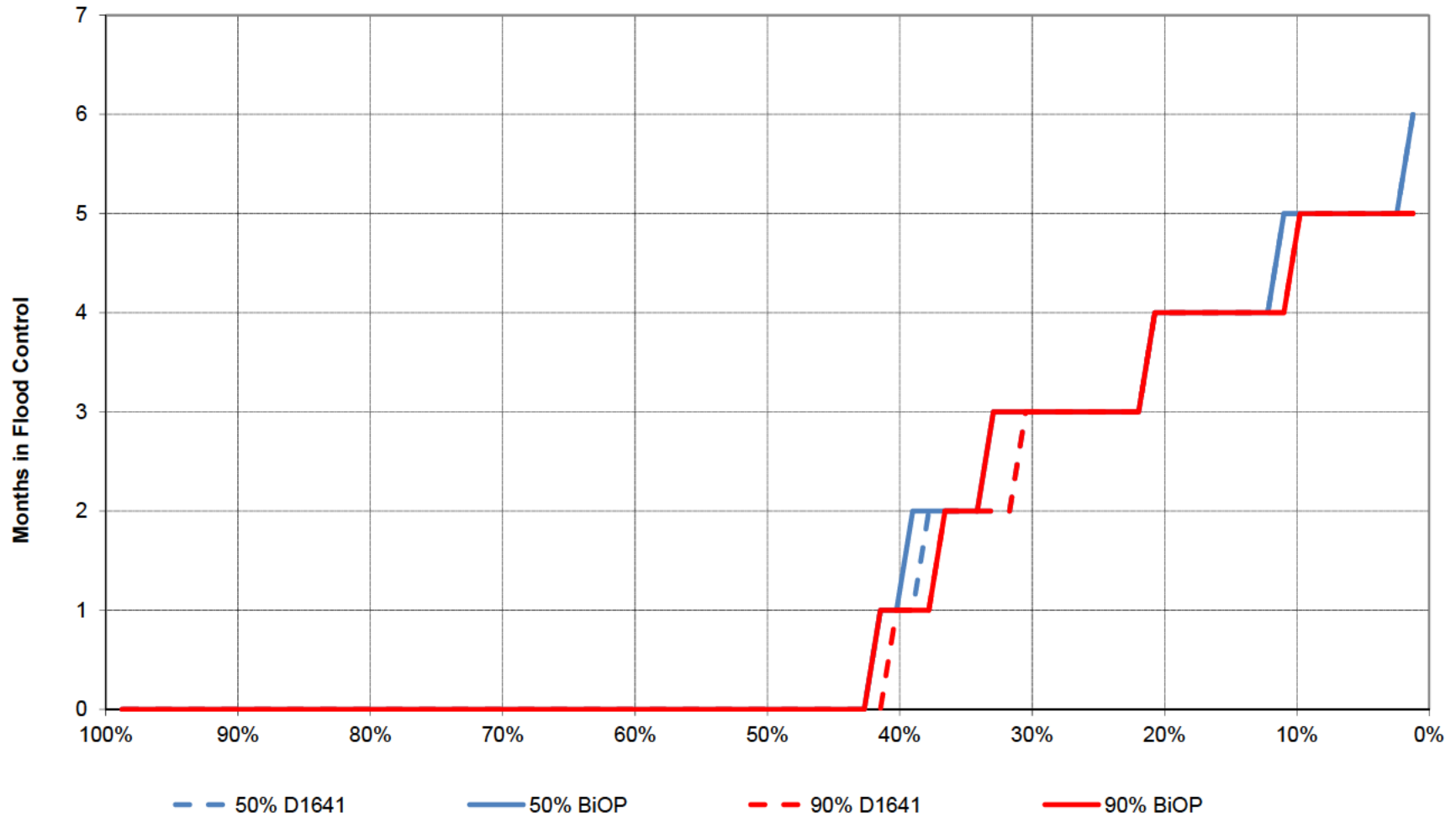
Probability of Exceedance for 2014 Table A, A56, A21 Delivery



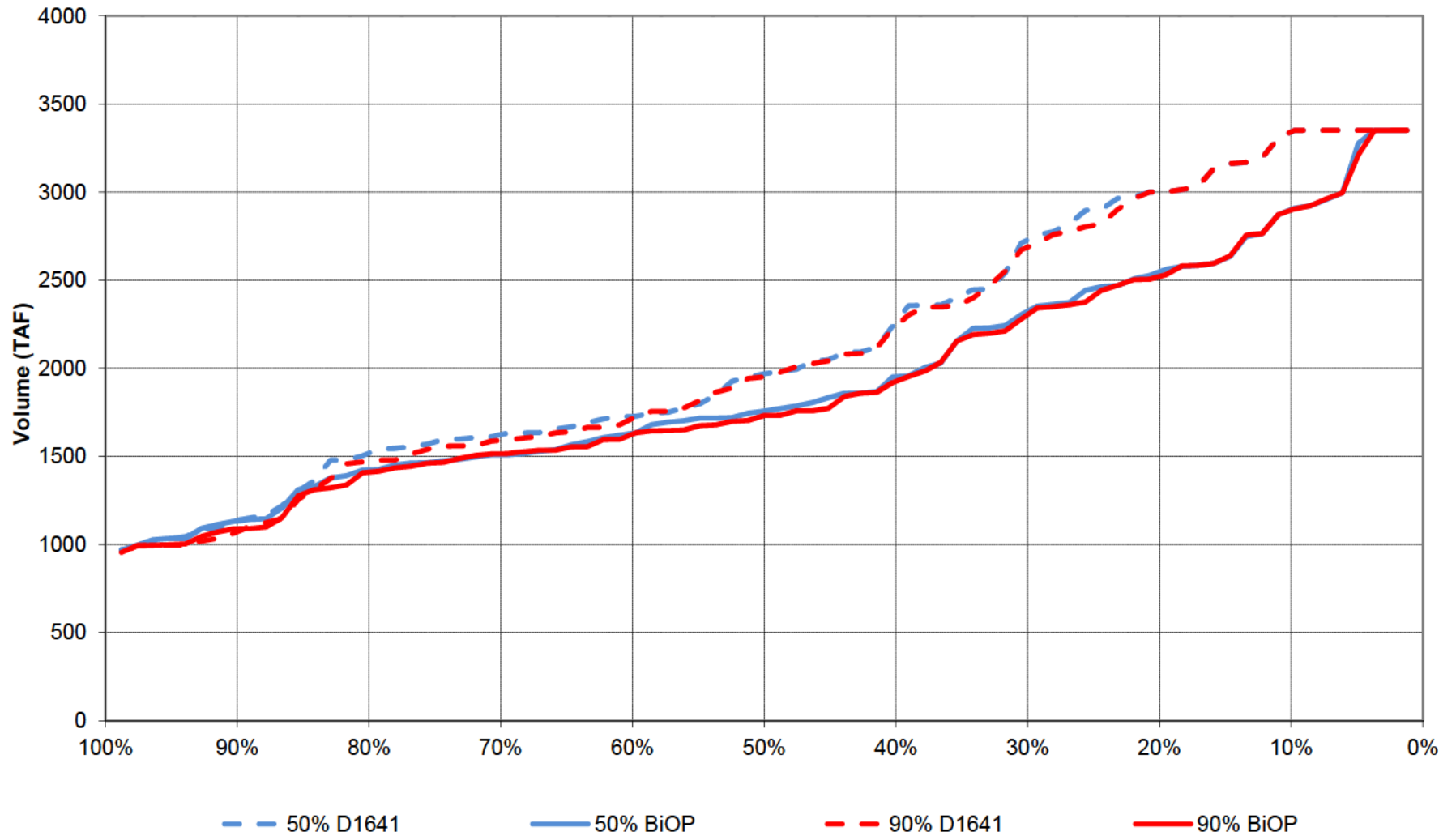
Probability of Exceedance for Oroville Storage at the end of May



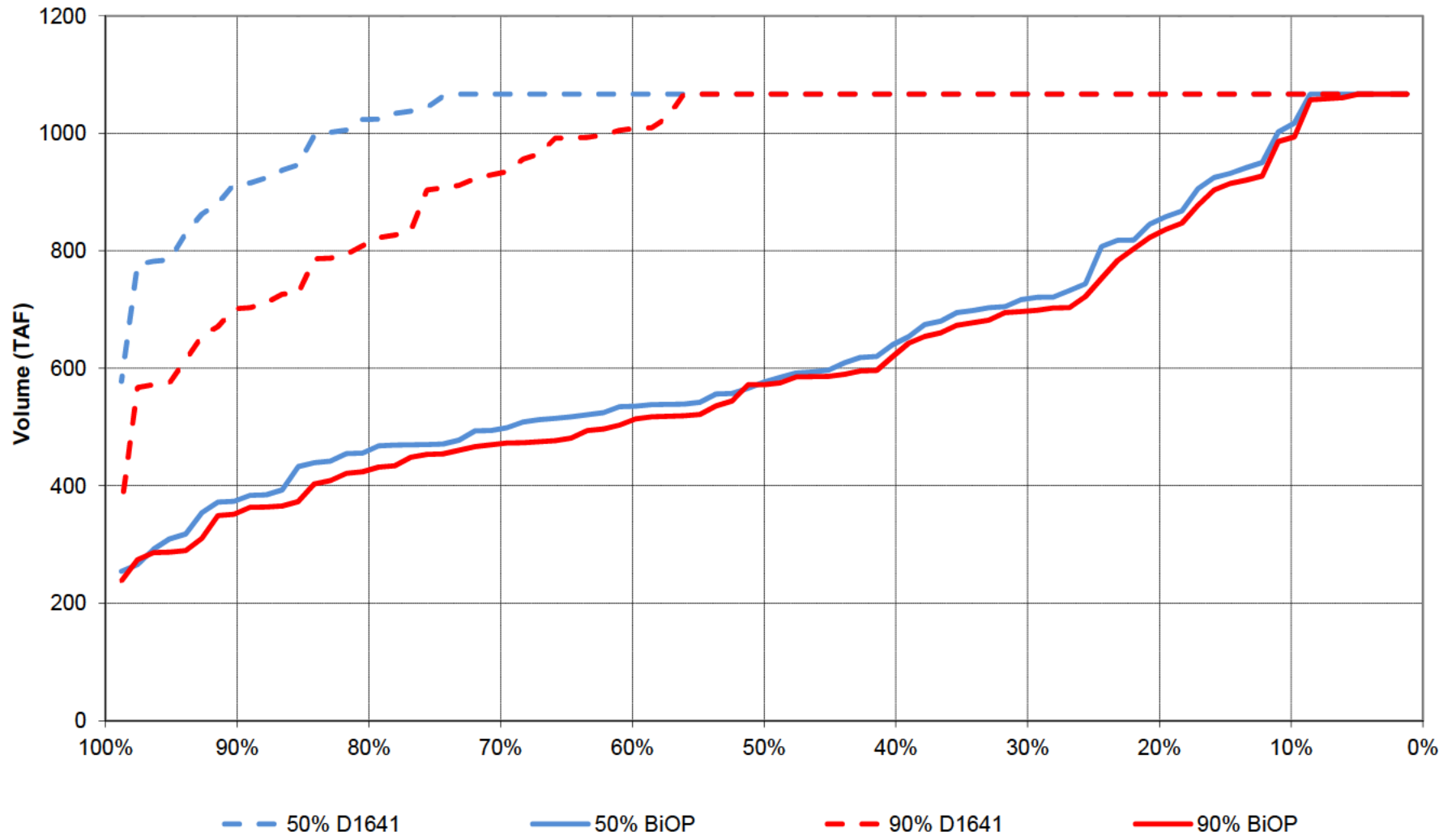
Probability of Exceedance for Oroville Flood Control from Jan to Jun 2014



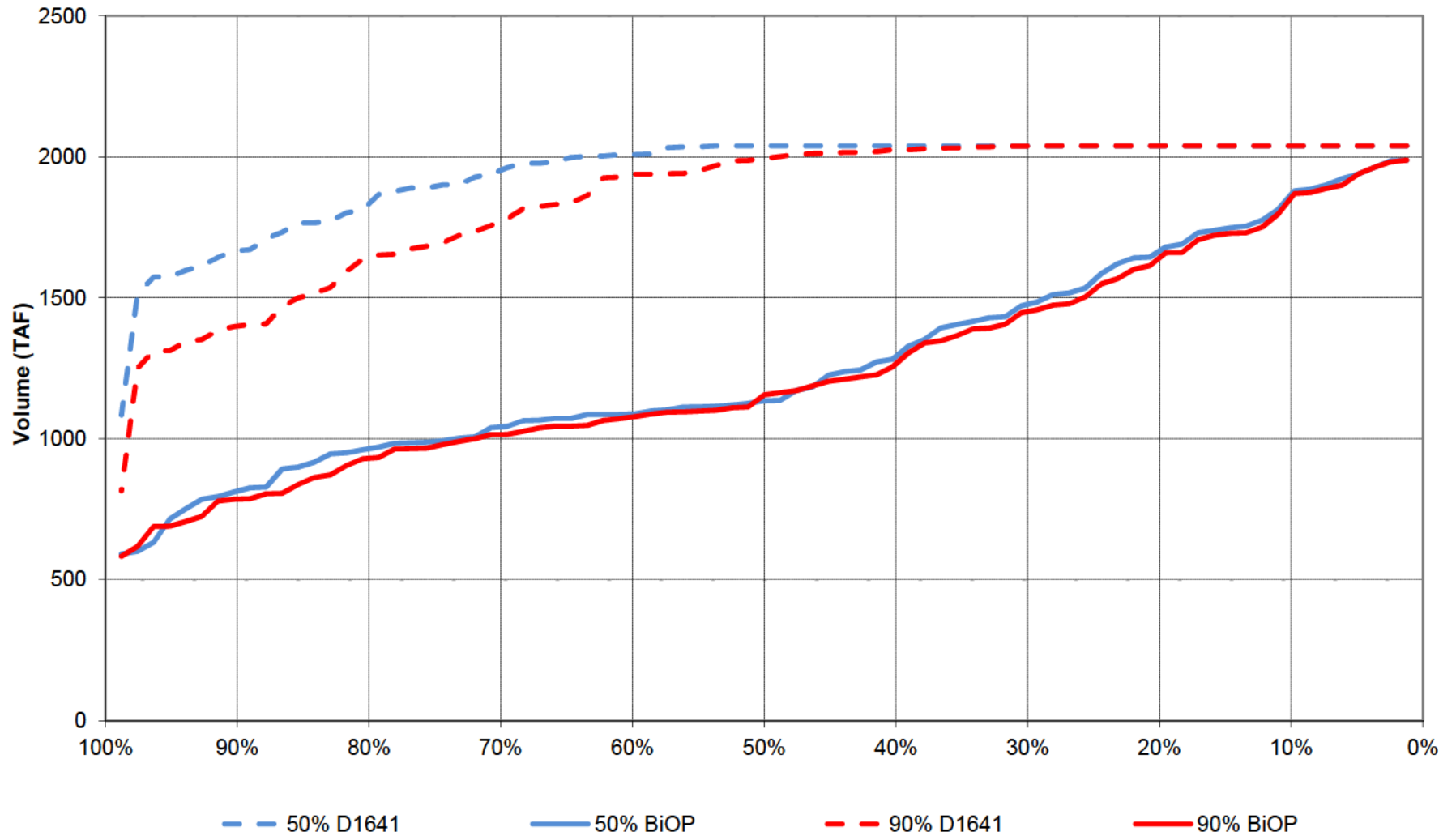
Probability of Exceedance for Oroville Storage at the end of September



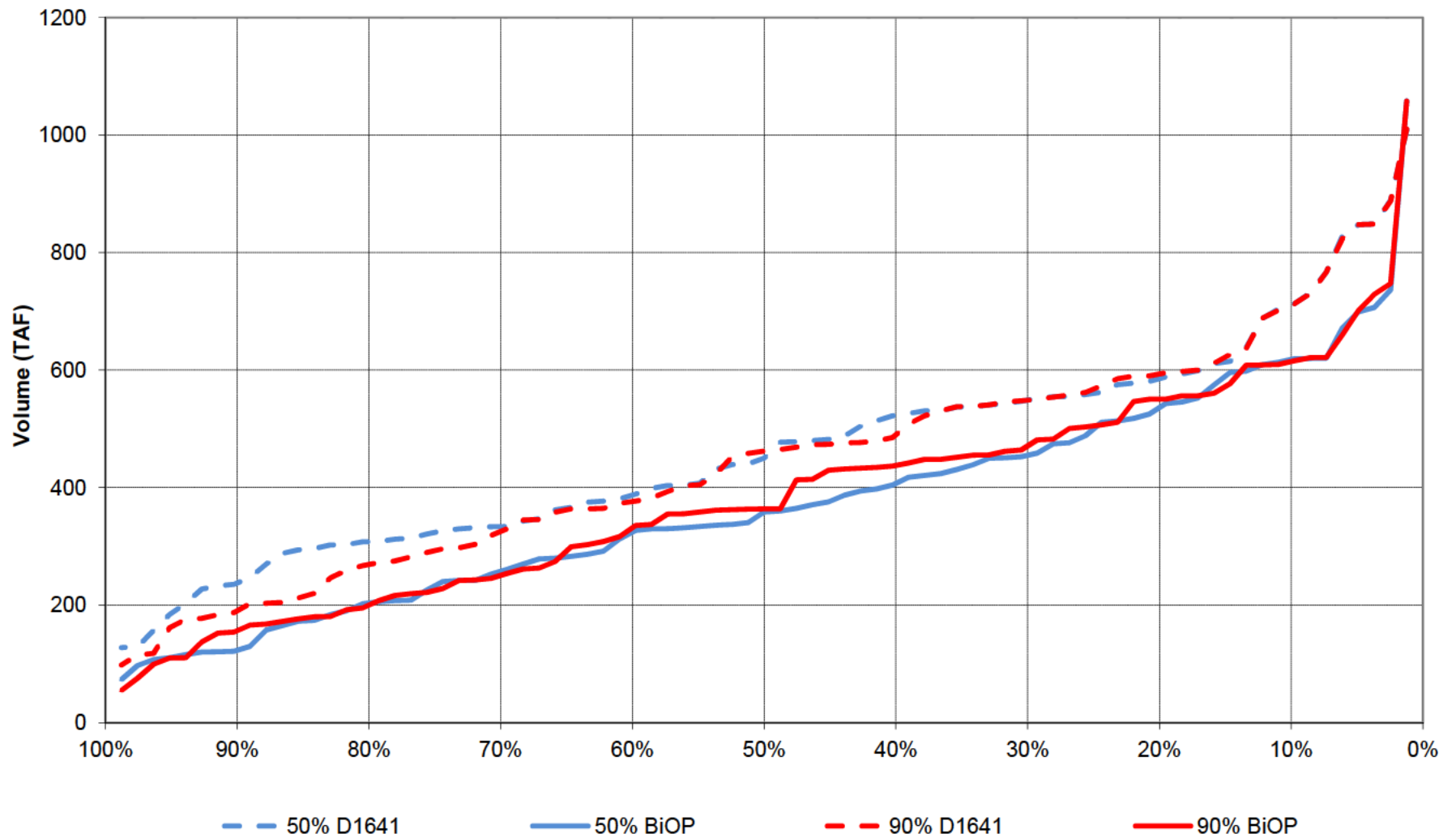
Probability of Exceedance for SWP San Luis Storage at the end of March



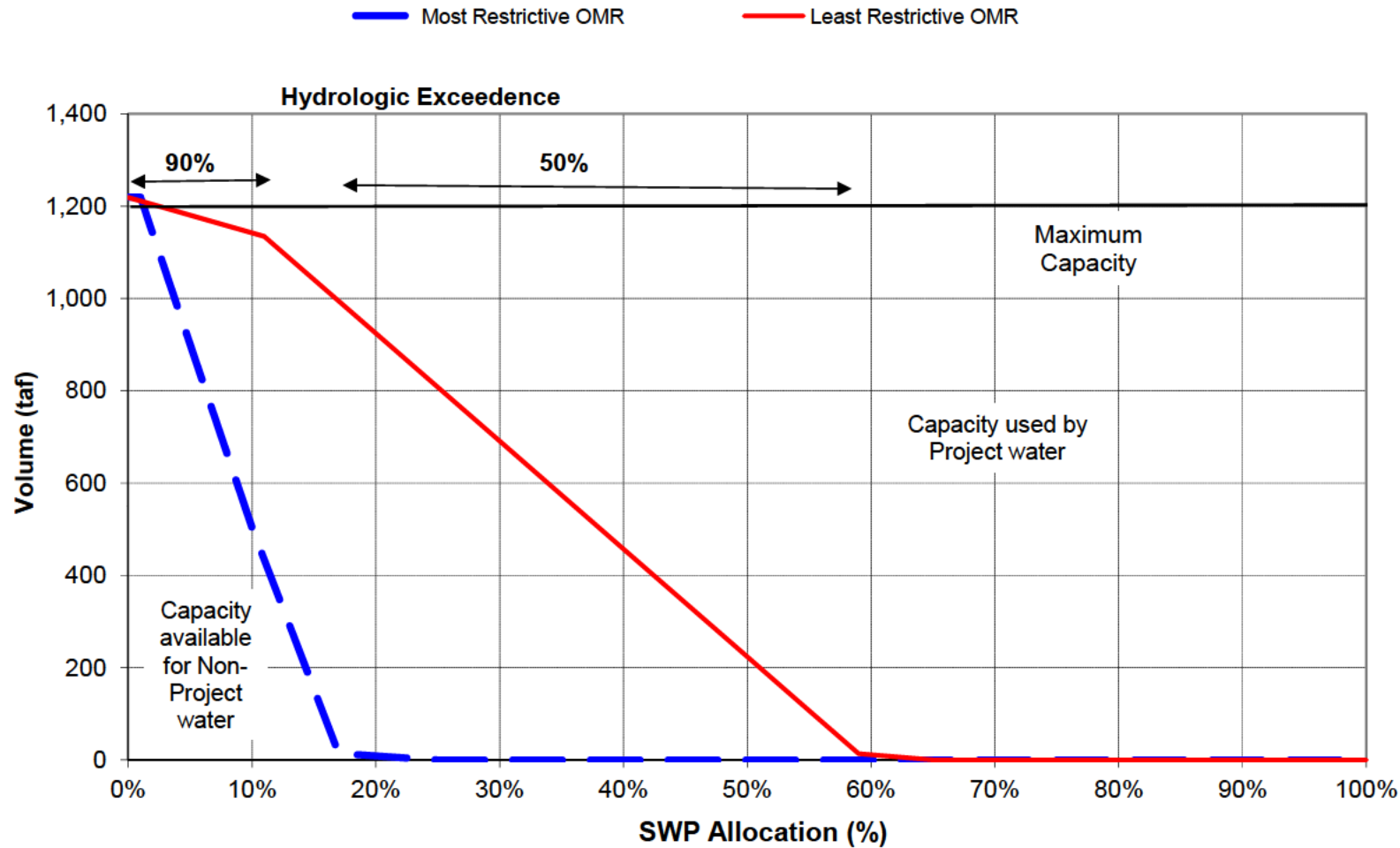
Probability of Exceedance for Total SL Storage at the end of March



Probability of Exceedance for SWP San Luis Storage at the end of September



## Total Estimated Conveyance Capacity at Banks Between July - September 2014



- \* Based on November's Allocation Analysis for 2014 (dated 12/2013).
- \*\* Assumed maximum permitted capacity of 6,680 cfs at Clifton Court Forebay.
- \*\*\* Capacity may be further reduced up to a maximum of 128 TAF for the CVC Contractors.



**From:** Jason Peltier

**Sent:** Thursday, December 12, 2013 10:20 AM

**To:** Tom Birmingham; Dan Nelson <Dan.Nelson@sldmwa.org>; Dennis Cardoza; Joe Findaro; David Bernhardt; Denny Rehberg; Gayle Holman; Mike Wade

**Subject:** EDITORIAL: Brown and Obama must act on requests for Valley water | Editorials | FresnoBee.com

<http://www.fresnobee.com/2013/12/11/3662545/brown-and-obama-must-act-on-requests.html>

**From:** Jason Peltier  
**Sent:** Tuesday, December 17, 2013 10:06 AM  
**To:** Dennis Cardoza; Joe Findaro; David Bernhardt  
**Subject:** Fwd: Westlands Press Release - Support Congressional and State Effort to Fix Water Crisis  
**Attachments:** Untitled attachment 32980.pdf; Untitled attachment 32983.htm

Begin forwarded message:

**From:** Gayle Holman <[gholman@westlandswater.org](mailto:gholman@westlandswater.org)>  
**Date:** December 17, 2013 at 8:56:24 AM PST  
**To:** "[Anna.Vetter@mail.house.gov](mailto:Anna.Vetter@mail.house.gov)" <[Anna.Vetter@mail.house.gov](mailto:Anna.Vetter@mail.house.gov)>  
**Cc:** 'Jason Peltier' <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)>  
**Subject:** Westlands Press Release - Support Congressional and State Effort to Fix Water Crisis

Hi Anna:

Attached is our press release for inclusion in your packet of materials for Congressman Valadao's press conference. Jason Peltier will be present to give our official statement. Let me know if you need anything else.

Note: Once your press conference concludes at 12:15 PM, I will send this out to our media database.

Gayle

Gayle Holman  
Public Affairs Representative  
Westlands Water District  
3130 N. Fresno Street  
P.O. Box 6056  
Fresno, CA 93703-6056  
(559) 241-6233 (direct)  
(559) [REDACTED] (cell)  
(559) 241-6277 (fax)  
[gholman@westlandswater.org](mailto:gholman@westlandswater.org)



## **Westlands Water District**

3130 N. Fresno Street, P.O. Box 6056, Fresno, California 93703-6056, (559) 224-1523, FAX (559) 241-6277

**FOR IMMEDIATE RELEASE**  
**December 17, 2013**

**CONTACT: Gayle Holman**  
**(559) 241-6233**

### **Westlands Water District Supports Congressional and State Efforts to Fix Immediate Water Crisis**

**FRESNO, CA** - Westlands Water District supports federal and state government efforts to address California's water crisis and the conditions that are causing both near and long-term water supply problems.

"We applaud the leadership of elected officials to bring attention to California's water crisis and the ramifications of current conditions and policies," said Thomas W. Birmingham, General Manager, Westlands Water District. "State and federal government action is needed to resolve the immediate water supply shortages and provide farmers and communities with reasonable assurance that they have the water resources needed to operate their businesses and keep people at work."

The San Joaquin Valley is facing the prospect of a record low water allocation, an historic low point in water supply reliability, and yet another year of severe economic hardship. Without substantive action to address water supply problems, agricultural production will be greatly impacted, which will have negative consequences for numerous industries and thousands of jobs that all indirectly rely on agricultural activity. This is a problem not just for the Central Valley, but also for the whole state of California.

Westlands encompasses more than 600,000 acres of farmland in western Fresno and Kings Counties. The District serves approximately 700 family-owned farms that average 875 acres in size. Westlands farmers produce more than 60 high quality commercial food and fiber crops sold for the fresh, dry, canned and frozen food markets, both domestic and export. More than 50,000 people live and work in the communities dependent on the District's agricultural economy.

If the drought is not addressed, the potential economic impact to the region could exceed \$1 billion dollars. There will be indirect ripple effects of an economic downturn in agricultural production that impact related businesses including food processing, goods movement, retailers, grocers, banking, and other financing entities.

“We cannot afford another year of uncertainty that will harm an industry that generates billions of dollars in economic activity and plays such an important role in the lives of the people that depend on agriculture,” said Birmingham.

Low allocations in recent years have already had a major impact on farms, food production, and families. The previous water crisis in 2009 caused farmers to fallow more than 300,000 acres of land and change their crops and production levels. There were high levels of unemployment and communities were left in financial peril. Statewide, income losses were estimated \$2.8 billion and more than 95,000 jobs were lost. Westlands is calling upon policymakers to learn from those lessons of the past.

Now, the same water supply conditions are creating the same ramifications that devastated communities in the San Joaquin Valley just four years ago. However, it is likely that the impacts will be even more severe this time because there are fewer options and coping mechanisms available now – groundwater supplies are low, land is subsiding, reservoirs are far below average levels. It will be impossible to create enough makeshift solutions to protect the agricultural economy in 2014. Therefore, Westlands is encouraging state and federal policy changes to provide water now.

“Westlands strongly supports federal and state efforts to implement a long-term solution to improve water reliability through the Bay Delta Conservation Program. We will continue to work with the agencies and officials to make that plan a reality. However, the current crisis demonstrates the need for a near-term solution. We cannot wait any longer. The time is now to recognize the importance of a reliable water supply and to take action to protect the hardworking families of the Central Valley, and the broader California economy,” said Birmingham.

# # #



**From:** Bernhardt, David L.  
**Sent:** Monday, December 23, 2013 5:49 PM  
**To:** Tom Birmingham  
**CC:** Joe Findaro; Denny Rehberg; Cardoza, Dennis; Dan Nelson; Karen Clark  
**Subject:** Re: Telephone Conference

I will be available.

David Bernhardt

On Dec 23, 2013, at 4:40 PM, "Tom Birmingham" <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)> wrote:

Gentlemen,

It is my hope that you are available for a telephone conference on Friday, December 27, to discuss an update on the Valadao appropriations language. I suggest 8:00 a.m. PST (11:00 a.m. EST). We can use the regular number, (800) [REDACTED], pass code [REDACTED]

Thank you and Merry Christmas,  
Tom

P.S.: I would like to keep the discussion to this small group.

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**From:** Jason Peltier

**Sent:** Thursday, December 26, 2013 5:09 AM

**To:** Dennis Cardoza; David Bernhardt

**Subject:** Folsom mandates 20 percent cut in water use for residents - Folsom/El Dorado News - The Sacramento Bee

[http://www.sacbee.com/2013/12/23/6023666/folsom-mandates-20-percent-cut.html#mi\\_rss=Latest%20News](http://www.sacbee.com/2013/12/23/6023666/folsom-mandates-20-percent-cut.html#mi_rss=Latest%20News)

**From:** Jason Peltier

**Sent:** Thursday, December 26, 2013 5:11 AM

**To:** Dennis Cardoza; David Bernhardt; Ara Azhderian; Jon Rubin; Philip Williams

**Subject:** Here is an easy way to see our problem.

**Attachments:** Attachment-1.gif

<http://www.hpc.ncep.noaa.gov/sfc/satsfc.gif>



**From:** Jason Peltier  
**Sent:** Thursday, December 26, 2013 1:53 PM  
**To:** Tom Birmingham; Dan Nelson <Dan. Nelson@sldmwa. org>; David Bernhardt; Dennis Cardoza; Carolyn Jensen (cjensen@ka-pow. com)  
**Subject:** Fwd: Folsom Reservoir Info in Intakes

Begin forwarded message:

**From:** Terry Erlewine <[TErlewine@swc.org](mailto:TErlewine@swc.org)>  
**Date:** December 26, 2013 at 4:08:09 PM GMT-3  
**To:** Ara Azhderian <[ara.azhderian@sldmwa.org](mailto:ara.azhderian@sldmwa.org)>, Jason Peltier <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)>, "Amelia Minaberrigarai <[ameliam@kcwa.com](mailto:ameliam@kcwa.com)>" <[IMCEAEX-O=SWC OU=FIRST+20ADMINISTRATIVE+20GROUP CN=RECIPIENTS CN=AMELIAMINABERRIGARAI@sldmwa.org](mailto:IMCEAEX-O=SWC OU=FIRST+20ADMINISTRATIVE+20GROUP CN=RECIPIENTS CN=AMELIAMINABERRIGARAI@sldmwa.org)>, Byron Buck <[BBuck@sfcwa.org](mailto:BBuck@sfcwa.org)>, Craig Manson <[cmanson@westlandswater.org](mailto:cmanson@westlandswater.org)>, Curtis Creel <[IMCEAEX-O=SWC OU=FIRST+20ADMINISTRATIVE+20GROUP CN=RECIPIENTS CN=CURTISCREEL@sldmwa.org](mailto:IMCEAEX-O=SWC OU=FIRST+20ADMINISTRATIVE+20GROUP CN=RECIPIENTS CN=CURTISCREEL@sldmwa.org)>, Dan Nelson <[dan.nelson@sldmwa.org](mailto:dan.nelson@sldmwa.org)>, Daniel O'Hanlon <[dohanlon@kmtg.com](mailto:dohanlon@kmtg.com)>, David K Fullerton <[dfullerton@mwdh2o.com](mailto:dfullerton@mwdh2o.com)>, Frances Brewster <[FBrewster@valleywater.org](mailto:FBrewster@valleywater.org)>, Frances Mizuno <[frances.mizuno@sldmwa.org](mailto:frances.mizuno@sldmwa.org)>, "Hutton,Paul H" <[phutton@mwdh2o.com](mailto:phutton@mwdh2o.com)>, Joan Maher <[JMaher@valleywater.org](mailto:JMaher@valleywater.org)>, Jon Rubin <[Jon.Rubin@sldmwa.org](mailto:Jon.Rubin@sldmwa.org)>, Jose Gutierrez <[jgutierrez@westlandswater.org](mailto:jgutierrez@westlandswater.org)>, Karen Clark <[kclark@westlandswater.org](mailto:kclark@westlandswater.org)>, Roger Patterson <[rpatterson@mwdh2o.com](mailto:rpatterson@mwdh2o.com)>, Sheila Greene <[sgreene@westlandswater.org](mailto:sgreene@westlandswater.org)>, T Birmingham <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)>, Terry Erlewine <[IMCEAEX-O=SWC OU=FIRST+20ADMINISTRATIVE+20GROUP CN=RECIPIENTS CN=TERRYERLEWINE@sldmwa.org](mailto:IMCEAEX-O=SWC OU=FIRST+20ADMINISTRATIVE+20GROUP CN=RECIPIENTS CN=TERRYERLEWINE@sldmwa.org)>, Tom Boardman <[tboardman@apex.net](mailto:tboardman@apex.net)>, Valerie Connor <[vconnor@sfcwa.org](mailto:vconnor@sfcwa.org)>, Stefanie Morris <[SMorris@swc.org](mailto:SMorris@swc.org)>  
**Subject:** Folsom Reservoir Info in Intakes

I came across below on info about level of supply intake issues at Folsom Lake. Current surface elevation level is 365 feet. At current rate of drawdown, next level that we'd hit is elevation 356 on about January 17. Not sure how significant that is. Next effect would be around mid February at 340 foot. All this assumes no change in rate of use, releases or inflow.

Surface Elevations (ft MSL)	Storage (acre-feet)	Pumping Relationship
433	640,800	Pumping to City of Roseville and SJWD during irrigation season (Apr - Oct)
425	569,900	Pumping required to City of Roseville and SJWD during non-irrigation season
414	480,200	Pumping begins to City of Folsom and Folsom Prison.
356	158,900	EID pumps begin to develop vortex problems.
340	111,900	Potential vortex at dam intake, depending on volume of pumping.
335	100,000	Folsom Pumping Plant limited to 70 cfs.
325	79,200	Lower limit of EID pumps and Folsom Pumping Plant; pumps on barges required to pump water to existing intakes.
315	62,100	Elevation of Folsom Dam water intake; tap penstocks.

307	50,400	Elevation of power penstocks; portable pumps placed on a barge to supply pipeline intake.
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**From:** Ara Azhderian [<mailto:ara.azhderian@sldmwa.org>]

**Sent:** Monday, December 23, 2013 2:45 PM

**To:** Terry Erlewine; Jason Peltier; Amelia Minaberrigarai <[ameliam@kcwa.com](mailto:ameliam@kcwa.com)>; Byron Buck; Craig Manson; Curtis Creel; Dan Nelson; Daniel O'Hanlon; David K Fullerton; Frances Brewster; Frances Mizuno; Hutton,Paul H; Joan Maher; Jon Rubin; Jose Gutierrez; Karen Clark; Roger Patterson; Sheila Greene; T Birmingham; Terry Erlewine; Tom Boardman; Valerie Connor; Stefanie Morris

**Subject:** RE: PWA Operations Group Notification: Regular call set.

Thanks Terry,

This is super helpful. Jon and Frances suggest we add SWRCB objectives and Gov's drought efforts to the list... OK?

a

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**From:** Terry Erlewine [[TErlewine@swc.org](mailto:TErlewine@swc.org)]

**Sent:** Monday, December 23, 2013 11:39 AM

**To:** Ara Azhderian; Jason Peltier; Amelia Minaberrigarai <[ameliam@kcwa.com](mailto:ameliam@kcwa.com)>; Byron Buck; Craig Manson; Curtis Creel; Dan Nelson; Daniel O'Hanlon; David K Fullerton; Frances Brewster; Frances Mizuno; Hutton,Paul H; Joan Maher; Jon Rubin; Jose Gutierrez; Karen Clark; Roger Patterson; Sheila Greene; T Birmingham; Terry Erlewine; Tom Boardman; Valerie Connor; Stefanie Morris

**Subject:** PWA Operations Group Notification: Regular call set.

We've been asked to start having weekly conference call to discuss current operations conditions.

I've scheduled the first call for next Monday, December 30 at 8:30 AM on 1-888-[REDACTED]  
[REDACTED] Code [REDACTED]

Agenda would include:

- Current Export conditions
- Reservoir Conditions
- Precipitation Forecast
- Fisheries Status – Take, Survey Locations, Other information

The call will be really short overview of current operational issues. We've only got a half hour available.

We may adjust time later as we go ahead. In the past, we had the Delta Conditions Team meeting at 9 AM. That meeting may be shifted to another time slot and we may be able to adjust the meeting time for this group.

**From:** Jason Peltier  
**Sent:** Thursday, December 26, 2013 1:56 PM  
**To:** Tom Birmingham; Dennis Cardoza; David Bernhardt  
**Subject:** Fwd: Paul Rogers: Delta tunnels plan's true price tag: As much as \$67 billion

Begin forwarded message:

**From:** "Alison Joob" <[ajoob@fionahuttonassoc.com](mailto:ajoob@fionahuttonassoc.com)>  
**Date:** December 26, 2013 at 3:54:30 PM GMT-3  
**To:** "Ann Newton" <[anewton@fionahuttonassoc.com](mailto:anewton@fionahuttonassoc.com)>, "Bob Muir" <[rmuir@mwdh2o.com](mailto:rmuir@mwdh2o.com)>, "Boni Brewer" <[bbrewer@zone7water.com](mailto:bbrewer@zone7water.com)>, "Brent Walthall" <[bwalthall@kcwa.com](mailto:bwalthall@kcwa.com)>, "Byron Buck" <[bbuck@sfcwa.org](mailto:bbuck@sfcwa.org)>, "Deborah Kollars" <[dkollars@comcast.net](mailto:dkollars@comcast.net)>, "Frances Brewster" <[fbrewster@valleywater.org](mailto:fbrewster@valleywater.org)>, "Jason Peltier" <[jpeltier@westlandswater.org](mailto:jpeltier@westlandswater.org)>, "Jennifer Persike" <[JenniferP@acwa.com](mailto:JenniferP@acwa.com)>, "Kathy Cole" <[kcole@mwdh2o.com](mailto:kcole@mwdh2o.com)>, "Kurt Arends" <[karends@zone7water.com](mailto:karends@zone7water.com)>, "Linda Waade" <[lwaade@mwdh2o.com](mailto:lwaade@mwdh2o.com)>, "Lisa Lien Mager" <[LisaLM@acwa.com](mailto:LisaLM@acwa.com)>, "Mary Ann Ruiz" <[mruiz@valleywater.org](mailto:mruiz@valleywater.org)>, "Mary Lou Cotton" <[maryloucotton@kennedyjenks.com](mailto:maryloucotton@kennedyjenks.com)>, "Mike Wade" <[mwade@farmwater.org](mailto:mwade@farmwater.org)>, "Teresa Alvarado" <[talvarado@valleywater.org](mailto:talvarado@valleywater.org)>, "Terry Erlewine" <[terlewine@swc.org](mailto:terlewine@swc.org)>, "Tim Hunt" <[thunt@valleywater.org](mailto:thunt@valleywater.org)>, "Tom Philp" <[TPhilp@mwdh2o.com](mailto:TPhilp@mwdh2o.com)>, "Walt Wadlow" <[Walt.Wadlow@acwd.com](mailto:Walt.Wadlow@acwd.com)>, "Gayle Holman" <[gholman@westlandswater.org](mailto:gholman@westlandswater.org)>, "Ara.azhderian@sldmwa.org" <[Ara.azhderian@sldmwa.org](mailto:Ara.azhderian@sldmwa.org)>, "Zinke,Dee" <[DZinke@mwdh2o.com](mailto:DZinke@mwdh2o.com)>, "Cindy Kao" <[CKao@valleywater.org](mailto:CKao@valleywater.org)>, "J. Duerig" <[jduerig@zone7water.com](mailto:jduerig@zone7water.com)>, "Greg Zlotnick" <[greg.zlotnick@sldmwa.org](mailto:greg.zlotnick@sldmwa.org)>, "Marty Grimes" <[mgrimes@valleywater.org](mailto:mgrimes@valleywater.org)>, "Fiona Hutton" <[fhutton@fionahuttonassoc.com](mailto:fhutton@fionahuttonassoc.com)>, "Dflory@avek.org" <[Dflory@avek.org](mailto:Dflory@avek.org)>, "Melissa Tessmer" <[mtessmer@fionahuttonassoc.com](mailto:mtessmer@fionahuttonassoc.com)>, "Ray Stokes" <[RAS@ccwa.com](mailto:RAS@ccwa.com)>  
**Subject:** Paul Rogers: Delta tunnels plan's true price tag: As much as \$67 billion

## Delta tunnels plan's true price tag: As much as \$67 billion

*By Paul Rogers*  
[progers@mercurynews.com](mailto:progers@mercurynews.com)

POSTED: 12/26/2013 05:16:14 AM PST

For more than a year, Gov. Jerry Brown's administration has been describing his plan to build two massive water tunnels through the Delta as a \$25 billion project.

That would rank it as one of the largest public works plans in California history.

But when factoring in long-term financing costs, the price tag actually ranges from \$51 billion to \$67 billion, according to new figures that emerged last month.

While there's nothing unusual about long-term debt to finance big projects, the new numbers suggest for the first time that the interest payments for the controversial water tunnels could be even more expensive than many traditional projects financed by bonds.



Sherman Island at the western edge of the Sacramento-San Joaquin River Delta. (Karl Mondon/Staff) ( KARL MONDON )

And since the water project relies on a higher percentage of financing than Brown's other legacy project -- high-speed rail -- critics and supporters alike are questioning if California can afford the cost.

"The numbers are big. There is sticker shock," said Jason Peltier, chief deputy general manager of the Westlands Water District, an agency in Fresno that provides water to farmers. "We keep going back to our policy people and saying 'Yes, this is tough to look at, but consider your other scenarios. How much more groundwater can we pump?' That kind of thing."

The Brown administration has yet to provide a detailed breakdown of the overall 30-year cost of the project, even in a 34,000-page report on the tunnels it released last month.

The new cost figures were presented at a Westlands district board meeting last month by a Westlands staff member and a Citigroup bond consultant.

Mark Cowin, director of the state Department of Water Resources, confirmed the estimates are accurate.

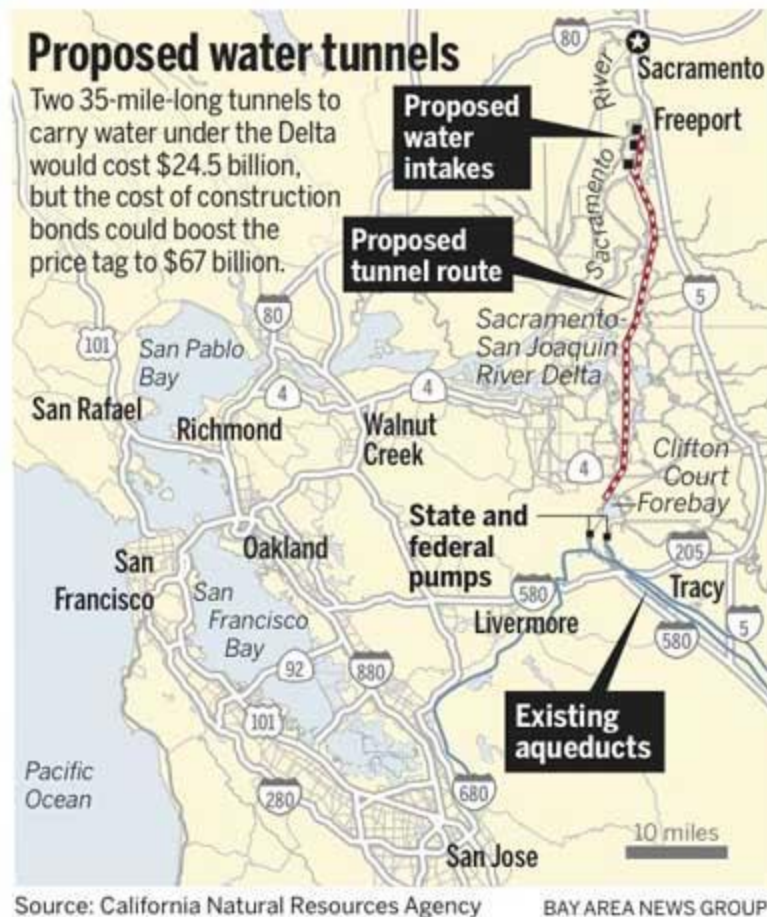
"The assumptions they've made are reasonable," he said. "But financing is confusing. There isn't any doubt about it. It's hard to relay information that the public understands. We need to be clear that if you add up the total debt service, that's a different type of calculation than the capital cost estimate. I would hope those two types of estimates aren't confused."

The new details are significant for three reasons:

- The overall cost for the tunnels is politically sensitive. State voters will be asked to approve a water bond to pay for parts of it in November, and polls have shown that the more government projects cost, the less likely voters are to support them. Water agencies around the state would sell bonds to pay for much of it also, and the higher the borrowing costs, the higher they will have to raise water rates on the public.
- Many large public projects are funded with money from bonds. But the tunnels project would rely on bond borrowing to cover a huge percent of its costs: roughly 85 percent. By comparison, the financial plan for Brown's other major project, high-speed rail, relies on state bonds for only 12 percent of its funding -- \$8 billion of the \$68 billion price tag -- with the rest, he hopes, to come from Congress, private companies and others.

- A general rule for government bonds is that they double the cost of projects once interest is paid. But the borrowing costs for the tunnel project could cause its construction costs to more than triple, according to Westlands' estimates. They include inflation, potential delays from lawsuits and techniques that water agencies could use in which they pay no interest or principal for the first few years, increasing the overall cost.

Financing charges are familiar to anyone buying a house or car. The interest costs help determine the monthly payments.



"You want to ultimately know what the total cost will be, in order to evaluate the cost-effectiveness of the tunnels project versus other alternatives," said attorney Doug Obegi, with the Natural Resources Defense Council in San Francisco. "Financing and debt service costs are significant. Ratepayers ultimately pay them."

Critics say the state has deliberately tried to keep the grand total from the public as it tries to build political support for what is expected to be the biggest water battle in California in a generation.

"I think they are nervous about the total cost," said Steve Kasower, a Sacramento economist who worked for the state Department of Water Resources from 1977 to 1985. "They have a reticence to put out a number because they feel people are going to get upset because it looks too expensive."



The Westlands presentation looked at three scenarios. Each considered bonds issued for 30 years at 5 percent interest. They pegged the cost to build the tunnels at \$18 billion, and overall cost with financing at \$42 billion to \$58 billion.

When the \$9 billion more in wetlands restoration, monitoring and other costs are included, the grand total is \$51 billion to \$67 billion.

Brown's plan is to build two tunnels, each 40 feet in diameter, running 35 miles under the Delta, and to restore 147,000 acres of wetlands and other habitat.

Supporters say the tunnels would make it easier to move water south without grinding up salmon, smelt and other fish in giant pumps at Tracy, which has caused federal officials in recent years to limit pumping. Environmentalists and Delta politicians call the project a water grab that could result in even more water being taken from the Delta. They say too many costs remain a mystery.

"We're going to have to add a lot more detail to our finance plan," Cowin acknowledged.

Asked when those details will be forthcoming, Cowin said he doesn't know, because the state expects 70 percent of the project to be paid by water agencies -- from the Santa Clara Valley Water District to farm water districts like Westlands to the powerful Metropolitan Water District in Los Angeles, who would issue revenue bonds -- and they haven't yet committed.

Cowin said he hopes the water agencies will agree to fund construction, and that state voters and Congress will pay for restoration so work can begin in 2017. Environmentalists say more water recycling, conservation and other measures are preferable. But Cowin said not building the project also comes with a price in future shortages.

"What are the costs if we don't do it?" he said.

Paul Rogers covers resources and environmental issues. Contact him at 408-920-5045. Follow him at [Twitter.com/PaulRogersSJM](https://twitter.com/PaulRogersSJM).

[Bay\\_Delta\\_Westlands\\_BDCP\\_DWR\\_Workshop\\_11-20-13\\_Powerpoint](#)



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**From:** Bernhardt, David L.  
**Sent:** Friday, December 27, 2013 3:44 PM  
**To:** Peterson, James (Feinstein)  
**CC:** tbirmingham@westlandswater.org  
**Subject:** Re: McCarthy call

James: I emailed you on the 24th to let you know contacts had been made as requested.

Best,  
David

David Bernhardt

On Dec 27, 2013, at 3:05 PM, "Peterson, James (Feinstein)" <[James\\_Peterson@feinstein.senate.gov](mailto:James_Peterson@feinstein.senate.gov)> wrote:

Thanks for sending the emails on Monday Tom. David have you been able to make these calls yet?

---

**From:** Bernhardt, David L. [<mailto:DBernhardt@BHFS.com>]  
**Sent:** Monday, December 23, 2013 07:45 PM Eastern Standard Time  
**To:** Tom Birmingham <[tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)>  
**Cc:** Peterson, James (Feinstein)  
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Tom: Will do.

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---

**From:** Peterson, James (Feinstein) [[mailto:James\\_Peterson@feinstein.senate.gov](mailto:James_Peterson@feinstein.senate.gov)]  
**Sent:** Monday, December 23, 2013 12:43 PM  
**To:** [tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)  
**Subject:** McCarthy call

Hi Tom,

Just checking in to see if you or your people were able to make contact with McCarthy, Simpson, etc. re the CA water provisions in the appropriations bill? Senator Feinstein is very eager to have CA water agencies that have supported the Senate provisions weigh in with him asap and would like a status report COB today.



---

James Peterson  
Legislative Assistant  
U.S. Senator Dianne Feinstein  
331 Hart Senate Office Building  
Washington, D.C. 20510  
Tel (202) 224-3841  
Fax (202) 228-3954

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**From:** Peterson, James (Feinstein)  
**Sent:** Friday, December 27, 2013 4:49 PM  
**To:** 'dbernhardt@bhfs.com'  
**CC:** 'tbirmingham@westlandswater.org'  
**Subject:** Re: McCarthy call

Thanks David. Just to be clear, can you tell me who you spoke to?

---

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**Cc:** tbirmingham@westlandswater.org <tbirmingham@westlandswater.org>  
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**To:** [tbirmingham@westlandswater.org](mailto:tbirmingham@westlandswater.org)  
**Subject:** McCarthy call

Hi Tom,

Just checking in to see if you or your people were able to make contact with McCarthy, Simpson, etc. re the CA water provisions in the appropriations bill? Senator Feinstein is very eager to have CA water agencies that have supported the Senate provisions weigh in with him asap and would like a status report COB today.

---

James Peterson  
Legislative Assistant  
U.S. Senator Dianne Feinstein  
331 Hart Senate Office Building  
Washington, D.C. 20510  
Tel (202) 224-3841  
Fax (202) 228-3954

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